The Harveian Oration

ON

SEARCHING OUT THE SECRETS OF NATURE.

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BY GEORGE VIVIAN POORE, M.D., F.R.C.P. LOND.,

PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL, ETC.

MR. PRESIDENT AND FELLOWS,—Two hundred and forty-three years have elapsed since Harvey gave us his estate at Burmarsh in Kent to provide an honorarium for our librarian and for the endowment of the Harveian Oration.

The first duty of the orator is to commemorate benefactors. Your predecessor, Mr. President, to whom I owe the very great honour of addressing the College as one hundred and eighty-first Harveian Orator, often reminded us that every man is a debtor to his profession and that our Fellows in the hour of their prosperity should remember by gifts and bequests to assist in maintaining the honour and dignity of the College. It is my privilege to record that during the past year our Fellows have not been unmindful of this duty. Sir Hermann Weber, the munificent founder of the Parkes prize, has presented 100 guineas to the College Endowment Fund. Dr. Philip Frank has given a similar sum, and has shown that although he has cast aside the heavy burden of practice his interest in that profession the dignity of which he has so well upheld in a foreign country is unabated. By the will of my lamented and respected colleague, Dr. C. J. Hare, the College has received £500.

Harvey not only built for us a library and museum and gave us an estate, but by his will left us books and certain articles of furniture. These minor benefactions—the "Persia long carpet," the "embroyed-eyed cushion," and the "andirons"—are very touching. They show how he loved the College and how he regarded it as the family mansion of the Fellows, where they could meet in comfort on terms of fraternal amity. During the past year our home has been beautified by two valuable additions to our portrait gallery. We have received from the Quain family a striking likeness of the late Sir Richard Quain by the late Sir John Millais, P.R.A., and a portrait by G. F. Watts of the late Sir William Roberts has been given to us by his representatives. Our library has been enriched by the thoughtfulness and generosity of Dr. J. F. Payne, the Harveian librarian, who has presented to it a fine copy of the Latin translation by Linacre, our founder and first president, of Galen's "De Temperamentis," printed at Cambridge in 1521. For these gifts and bequests there is no lack of gratitude among us.

We meet upon the day dedicated by the Church to the memory of St. Luke, "the beloved physician," the medical companion of St. Paul. Without entering upon the vexed question of the precise identity of "Luke, the beloved physician," it may be well to dwell for a few moments on the condition of medicine in the first century. Of the state of medical knowledge at this time we are in no doubt. Of two of the best known ancient medical writers—Celsus and Galen—one lived shortly before the Christian era and the other about 150 years after it. From their works, therefore, we are able to judge as to the probable attainments of a decently educated physician who lived at a period equidistant from both.

Alexandria was at this time the chief centre of learning, in which every department of literature and natural knowledge was provided for. In this famous "teaching university" of the Ptolemies not only had all the wisdom of the ancients been collected but the students of mathematics, physics, astronomy, geography, zoology, and medicine were furnished with all the practical instruction possible. Anatomy, the groundwork of medicine, was in an advanced state and was taught by dissection of the human body. The practice of embalming had been followed in Egypt for centuries before the time when, as we read in Genesis, the body of Jacob was embalmed by the physicians; and it is not surprising that a knowledge of anatomy and disease should have first attained exactitude in a land where "post-mortem examinations" were of hourly occurrence. It is impossible not to believe that these frequent observations of the dead must have led to the accumulation of facts which were of value to the living.

In the centuries immediately preceding and following the Christian era there was an enthusiasm for natural knowledge and the great ones of the earth vied with each other in the collection of books and the provision of facilities for students. In Pergamos, the birthplace of Galen, was a famous library and medical school, and Galen, we are told, studied not only here but at Alexandria, Corinth, and Smyrna, where (as probably elsewhere) similar facilities existed.

The reader of Celsus cannot fail to be struck with his accurate records of cases and to be convinced that by this author (as probably by his contemporaries) observation counted for much and mere authority for little. It is well to remember that the physician of the first century could treat a fracture or dislocation with splints and bandages very much on modern lines, that he could cure a cataract, trephine the skull, and boldly cut for stone without the aid of anæsthetics. Soot of frankincense was a favourite antiseptic, and his frequent mention of wine and oil for the treatment of wounds bids us remember that Celsus and the "good Samaritan" were trained in the same school.

St. Luke tells us of the woman who "had spent all her living on physicians," an echo possibly of the well-known fact that in the Roman Empire specialism in medicine and surgery had for purposes of gain been pushed to ridiculous extremes. It must, however, be remembered that the leaders of medicine at this time were men of wide cultivation. Celsus and Galen had "taken all knowledge for their province," and regarded medicine as one branch merely of natural knowledge in the pursuit of which the best intellects were engaged, and of which, as we learn from Pliny, the literature was enormous. The physician of the first century had probably mastered Euclid's elements; and Euclid, be it remembered, was a natural product of his time and his work is an eternal monument to the inexorable logic of facts.

Greek philosophy—and Greek medicine as a part of it—was grounded on the solid basis of observation. It was the product of sane minds trained in the pure atmosphere of liberty and nurtured in sound bodies developed by manly exercises. To the mind's eye it stands out simple in form, faultless in beauty, eternal in strength, like the temple of Pallas Athenæ on the rock of the Acropolis which, mangled though it be, still rears its noble form to check our tendency to mental arrogance and to inspire us with the hope that there be things which may outlive the ragings of man and the warring of the elements.

Darkness gradually overwhelmed the enlightenment of the Greeks. Philosophy gave way to mysticism, reason was swallowed up by superstition, and inquiry was strangled by authority. Men engaged in endless speculations and tried by fire and sword to settle questions which could not be solved by reason—questions which now barely serve to furnish a little damp ammunition for the political pyrotechnist. Intellectual training was almost limited to dialectics and men could argue so nimbly and with such faultless logic from phantom premisses as to justify the later witticism that language was given us to conceal our thoughts. Under these blighting influences medicine withered almost to death and the physicians of the fourteenth century were more ignorant than those of the first century. It is tolerably certain, to take a concrete example, that the beloved companion of St. Paul had a more extended and more scientific grasp of medicine than the immediate predecessors of Vesalius and Harvey.

But if science in the Middle Ages stood still, the handicrafts progressed and found ultimate expression in buildings marvellous for their engineering skill and matchless beauty which enshrined all that the most cunning hands, impelled by artistic imagination and devotional enthusiasm, could produce. Science can never know what it owes to the handicrafts. Not only has it been largely recruited from their ranks, but it is obvious that science cannot progress without the craftsman to furnish it with instruments of precision. Chemistry could not exist without the glass-blower; astronomy and microscopy owe their very existence to the optician; while medicine and physiology have advanced *pari passu* with the power of recording and measuring. All branches of science must unite in doing homage to the

printer who made the Renaissance possible. Further, let us never forget that the Middle Ages were not without their high ideals and that the mediæval priests were indefatigable in preaching charity. Many of our asylums and hospitals owe their existence to the exhortations and piety of ecclesiastics. To take only one example, let us not forget that St. Bartholomew's Hospital owes its existence to a mediæval prebend of St. Paul's, and that Rahere, by providing a place in which our Harvey subsequently observed disease, must be allowed to have some share of Harvey's great discovery.

In briefly reviewing Harvey's life and work we must, in order to rightly estimate his genius, take into consideration the circumstances in which he lived. Harvey was born at Folkestone in 1578, into a world distracted by religious dissension. Queen Elizabeth was excommunicate; the massacre of St. Bartholomew was still fresh in the memory; the Netherlands were fighting Spain for life and liberty; Mary of Scotland was a prisoner waiting her tragic end. While Harvey was still at his mother's knee he must have learnt how Drake had accomplished his circumnavigation and had returned laden with treasure; and as a lad of ten he may have stood upon the cliffs of Folkestone and have seen how his countrymen, then as now, could sink minor differences in the face of a common danger as, led by the patriotic Lord Howard of Effingham, our fleet drove the Spanish Armada to its destruction. Upon this great victory there followed a period of peace, prosperity, and extended commerce. The manor-house was tending more and more to replace the fortified stronghold of the feudal chieftain, a certain evidence of advancing civilisation; men found leisure for contemplative work; and the judicious Hooker began to teach that God revealed Himself in the natural laws of the world as well as in the letter of the Scriptures. Agriculture flourished, and accordingly we find that the promising son of the prosperous Kentish yeoman is sent from the King's School at Canterbury to Caius College, Cambridge. From Cambridge he goes to Padua, where alone in Europe he could receive anything like adequate instruction in anatomy and where Fabricius *ab Aqua pendente* held the torch which Vesalius had kindled and from which our Caius had brought a vitalising spark to England. At Padua Harvey must have lived in a scientific atmosphere and may occasionally have formed one of an audience of 2000 persons who hung upon the words of Galileo Galilei, the immortal professor of mathematics. After graduation in 1602, Harvey settled in London, married Elizabeth Browne, the daughter of the King's physician, became a Fellow of our College in 1607, succeeded to the post of physician at St. Bartholomew's Hospital in 1609, was appointed our Lumleian lecturer in 1615, and in 1618 was made physician-extraordinary to James I. It was not until ten years after this that Harvey, in 1628, at the age of 50 years, published in its final form his ever-famous essay on the circulation of the blood.

The 30 years which intervened between the commencement of Harvey's studies at Padua and the publication of his essay (1598—1628) were a period of comparative political tranquillity in which Harvey, occupied with matters purely medical, found leisure in the intervals of practice for that brooding of the mind which is necessary for the effective incubation of all fertile ideas. The intellectual and literary productiveness of these 30 years was such as must strike our special wonder. In this period Shakespeare produced *Hamlet*, *Macbeth*, *Othello*, *Lear*, and other plays, admittedly the greatest creations of the human mind; Gilbert published his work "De Magnete"; Galileo's discoveries were bringing him into conflict with the Holy Office at Rome; Kepler enunciated his laws; Napier announced the invention of logarithms; and Francis Bacon was busy in issuing his pregnant thoughts.

From 1629 to 1649 Harvey's life was less settled. First, he is appointed by the King to travel with the young Duke of Lennox; next he attends his Sovereign in Scotland and then goes with Lord Arundel on an embassy to Vienna. This brings us to the year 1636, and three years later we find him appointed senior physician-in-ordinary to the King, with whose fortunes thenceforward he is closely and personally associated. Harvey was in charge of the young Princes at the battle of Edgehill in 1642, lived with the King at Oxford while that city served the functions of a Court and barrack as well as of a university, and was Warden of Merton College from April, 1645, to May, 1646, when the city finally capitulated to Fairfax. This made an end of the semblance of Court life. The King was now practically a fugitive and the Royal Household all adrift. When the King's cause reached its final catastrophe in 1649 it must have brought to Harvey a deep sense of personal loss, for we have abundant proof that the physician enjoyed the absolute confidence of Charles, who at Edgehill confided to his keeping those who were dearest to him, and who chose Merton College as a safe asylum for his Queen at a time when Harvey was its warden.

From 1649 Harvey, who was now a widower, was without a home of his own; but we find him in the city, or at Roehampton, or at Combe, as the welcome guest of one or other of his brothers, who had so well managed his worldly affairs that he was, despite the troublous times, very well off. He still retained the Lumleian lectureship. It was in 1650 that Ent, in a famous interview, obtained from Harvey the manuscripts of his work on generation. In 1651 Harvey expressed his intention of building a library and museum for our College which was opened in 1653; and in the year following he excused himself, on the score of age, from assuming the burden of our Presidency. In 1656 he resigned the Lumleian lectureship, which he had held for 40 years, and in doing so gave us his estate of Burmarsh; and on June 3rd, 1657, he died at the age of 79 years.[1]

Harvey was a born naturalist. He could not help observing. He was in this respect like Aristotle or Pliny, Nehemiah Grew, White of Selborne, John Hunter, and Charles Darwin. Like all men who have learnt to distinguish words from facts his literary style was simple and direct. With him "brevity is the soul of wit." His essay "De Motu Cordis," the result of 12 years of study, meditation, and experiment, is so simple and direct, and written with such attention to method and logical sequence, that it cannot fail to convince the unprejudiced mind. There is in it scarcely a redundant word and it may be read in a few hours.

Harvey's passion for observation is made evident by several passages in his life. In his study of the circulation he made use of every living thing within his reach that had a visible heart. When absent with the Duke of Lennox in France in 1631 he writes to Lord Dorchester that "by the way, we can scarce see a dog, crow, kite, raven, or any other bird, or anything to anatomise." When in attendance upon the King in Scotland in 1633 Harvey escapes from the pomp of courts and ascends the Bass Rock to study for himself this procreant cradle of the sea-birds. When he was travelling with Lord Arundel we learn how Harvey (whom the Ambassador styles "Little Doctor Harvey" and "Honest little Harvey") "would still be making observations of strange trees and plants, earths, &c., and sometimes like to be lost."

After the outbreak of the Civil War we find Harvey stealing a few hours from duty to visit Percival Willoughby at Derby, and during the occupation of Oxford by the King Harvey finds time to be with Bathurst at Trinity College and to study, by the observation of eggs, the progress and

[1] Some eight or ten generations of men have passed away since Harvey's time, a period which appears long to the individual, but which is but a brief span in the history of a nation or in the history of human progress. In connexion with Harvey there are facts which show the continuance of our national life which seem to bring us nearer to him and which are not without interest. Our gracious Queen is but eighth in direct descent from James I., to whom Harvey was physician-extraordinary. Our Prime Minister comes in the direct line from Burleigh, the great Minister of Queen Elizabeth, and Cecil, the great Minister of James. It was Elizabeth who pensioned Dr. Gilbert; it was Burleigh who befriended John Gerard. Queen Victoria has shown her regard for science by calling two successive Presidents of the Royal Society to the House of Peers, a gracious act which has certainly met with the approval of the Prime Minister, the scientific and philosophic qualities of whose mind are perhaps to be traced to the circumstance that Cecil was the grandson of Sir Anthony Cooke, who was also the grandfather of Francis Bacon. Again, it is not without interest to remember that the most unsparing critic of Harvey's great discovery among his own countrymen was Dr. James Primrose, the collateral ancestor of another living statesman distinguished for his wit, learning, and patriotism, of whom it may be justly said that he is nothing if not critical. Sir John Spencer, who was Chairman of the Court when Harvey was elected to St. Bartholomew's Hospital, had been Lord Mayor, and was the father of that Elizabeth Spencer who eloped with Lord Northampton, and from whom is descended a well known living enthusiast for municipal government. Lord Arundel, with whom Harvey travelled, and with whom he was on the best of terms, is only seven generations in the direct line from the present Postmaster-General. Two of the witnesses of Harvey's will, Mr. Heneage Finch and Sir Edward Dering, were his nephews by virtue of marriage with Elizabeth and Mary Harvey respectively, the daughters of Daniel Harvey of Combe. The present Earl of Winchilsea is only fifth in direct descent from Elizabeth Harvey; while the present holder of the Dering baronetcy is eighth in direct descent from Mary.

way of generation. In short, Harvey's statement to Ent in 1650 that "the examinations of the bodies of animals has always been my delight" is abundantly justified by the scanty facts of his personal history.

In the pursuit of natural knowledge Harvey never tired, because "the labour we delight in physics pain." He seems to have risen superior to the political violence of the time and to have felt that the establishment of the facts of Nature was of more importance than the ephemeral questions by which professional politicians seek ascendancy. No man can successfully interrogate Nature unless he be constitutionally honest, and it is not therefore surprising that Harvey should have earned the entire confidence of the King and Lord Arundel. It must be admitted that, considering the rancour of the times, he suffered singularly little at the hands of the Parliamentary party. His papers appear to have been destroyed by a mob which visited Whitehall, but no harsh treatment was ever meted out to Harvey by Cromwell or his subordinates. This fact is probably due, not only to the guileless simplicity of Harvey's character but to the sanity of the reformers. Cromwell could recognise a wise man when he met one, and although he knew the uses of fanaticism he was not one to tolerate the mastery of a mob. One cannot but contrast the safety of Harvey with the fate of Lavoisier, who 150 years later was hurried to execution with the cry that "the Republic has no need of *savants*."

I have next, by Harvey's bidding, to exhort my brethren to search out the secrets of Nature by way of experiment. If knowledge is to advance, investigation is a necessity. Not only is it true that, as Aristotle pointed out, the greatest pleasure in life is contemplation, but the philosophic mind is never dull and the joys of the successful investigator are probably the greatest which this world has to give. We are told how Archimedes, when the idea of "specific gravity" flashed upon him, was overcome by a paroxysm of delight. Surely, also, we may surmise that the sight of the New World on Oct. 12th, 1492, must have more than compensated Columbus for all his toil. One wonders what must have been the feeling of Horrocks, the gifted contemporary of Harvey, the parish priest of Hoole in Lancashire, who at the age of 20, having foretold a transit of Venus, which Kepler had overlooked, verified his prophecy by actual observation on Sunday, Nov. 24th, 1649, in the short and precious interval between matins and evensong. One can well credit what is recorded of Newton, that when the goal of his great discovery was in sight his mind was so moved that his calculations had to be finished by a friend. In like manner the modern investigator, who by infinite pains turns a disease from a word into a fact, and who by careful isolation, cultivation, and inoculation draws back the veil of mystery and points the way towards the prevention and cure of a pestilence, surely experiences an unsullied joy such as the victorious general, the idolised plutocrat, the lucky gambler, and the adroitest of Parliamentary hands have no knowledge of.

The soul is invulnerable. The well-stored mind soars above the whips and scorns of time. When, after a period of civil strife unequalled in the history of this country, Ent sought out Harvey in 1650 and asked "if all were well with him," "How can it be," was Harvey's reply, "when the Commonwealth is full of distractions and I myself am still in the open sea?" "And truly," he continued, "did I not find a solace in my studies and a balm for my spirit in the memory of my observations of former years I should feel very little desire for longer life. But so it has been, that this life of obscurity, this vacation from public business which causes tedium and disgust to so many, has proved a sovereign remedy to me." Here we have from Harvey's own lips precious testimony to the content which is to be found in searching out the secrets of Nature.

> "Happy is the man that findeth wisdom;
> Her ways are ways of pleasantness and all her paths are peace."

Nature is omnipresent and the study of her affords the best discipline for the mind, for she only yields her secrets to the man of truthful spirit who works with patience.

All that can be said under this head is to be found in the Book of Wisdom, written probably at a period not very distant from the Christian era, when, as we have seen, there was an enthusiasm for natural knowledge. Of wisdom this writer says:—

> He that riseth up early to seek her shall have no toil, for he shall find her sitting at his gates. Her true beginning is desire of discipline, and the care for discipline is love of her; and love of her is observance of her laws; and to give heed to her laws confirmeth incorruption; and incorruption bringeth near unto God; so then desire of wisdom promoteth to a kingdom. If, therefore, ye delight in thrones and sceptres, ye princes and peoples, honour wisdom that ye may reign for ever.

That the wisdom of which this writer speaks is such as is got by "searching out the secrets of Nature by way of experiment" is scarcely open to doubt, for he says (and it might be Aristotle who speaks):—

> For himself gave me an unerring knowledge of the things that are; to know the constitution of the world and the operation of the elements; the beginning and end and middle of times; the alternation of the solstices and the changes of seasons; the circuit of years and the position of stars; the nature of living creatures and the ragings of wild beasts; the violence of winds and the thoughts of men; the diversities of plants and the virtues of roots.

The establishment of facts is now recognised to be of such importance that the highest scientific honours are rightly reserved for the disciplined worker who helps in ever so small a degree to increase the sum of the verities. No man of science thinks less highly of a discovery because its practical utility may not be apparent. Generalisations can only be made after the accumulation of many facts and the fortunate man who demonstrates some far-reaching law of Nature must recognise that he owes his discovery to the patient disciplined workers who have made his generalisation possible.

The great generalisations of modern times, such as the laws of gravity, the doctrine of evolution, and the correlation of the physical forces, are associated with the names of Newton, Darwin, Joule, Grove, and others, but these great men all recognised that the stones of which their edifices were built had been quarried, squared, and set by an army of workers without whom the genius of the architect could not be manifested.

Harvey's discovery was not a great generalisation applicable to the whole visible universe and its importance was appreciable only to a specially educated class.[1] Harvey's discovery was nevertheless the first of a series which have exercised enormous influence over human welfare.

Before we possessed a fair knowledge of the physics of the circulation a proper appreciation of the symptoms of the varied diseases of the circulatory organs, such as syncope and asphyxia, thrombosis and embolism, was impossible. Sufferers who are now treated rationally instead of being tormented empirically have to thank those who have sought out the secrets of Nature by way of experiment.

The fact of the systemic and pulmonary circulations being established men began to search out the reason of this double circulation, but it was not until Priestley and Cavendish and Lavoisier had founded modern chemistry that the relationship of circulation to respiration was fully established. The necessity of fresh air and the quantity needed for the healthy working of the body are now commonplaces. The working-classes of this country have shown themselves ready to support politicians who have legislated for more light and air in the house and in the workshop, and some day they will recognise that this advance is really traceable to the quiet workers who have been engaged in searching out the secrets of Nature by way of experiment, among whom Harvey must ever stand pre-eminent.

The microscope has informed us of the various cellular elements which circulate in the blood, and we have learnt, and are still learning, to differentiate various forms of anæmia, to attribute to each its true proximate cause, and to indicate the direction in which relief is to be found. The spectroscope, again, is informing us as to the influence of inspired gases on the blood and the precise dangers incurred by workers in noxious places. This knowledge has suggested preventive measures and measures of recovery, for which thanks are due to those who have been busy in searching out the secrets of Nature by way of experiment.

The great advance of the latter half of this century has been the discovery of microscopic parasites in the blood

[1] Although Harvey had probably taught the doctrine of the circulation for ten years before Bacon died that philosopher gives us no hint that he was aware of it. Harvey's treatise was not finally published until two years after Bacon's death, so that Bacon's silence about Harvey's discovery is not very astonishing. But it points to the isolation of scientific workers before the establishment of the Royal Society, which has served as an invaluable exchange and mart for commodities, compared with which all the gold of the earth is "as a little sand." Our late President once remarked to me that Shakespeare's appreciation of our profession was not very flattering. This is not to be wondered at, for the doctrine of the circulation was certainly not taught until the year of Shakespeare's death (1616), and before the establishment of this doctrine rational medicine or rational biology was impossible.

and tissues. It is but 50 years since Davaine demonstrated the bacillus anthracis in the blood and the facts of a similar order since accumulated have bewildered us by their number and variety. To take only one example, we have attained to a certain knowledge of the physical cause of the plague which in times past has numbered its victims by hundreds of millions. This disease has been isolated and cultivated. It has been sent half round the world in a tube and has been re-inoculated in animals. Some of these animals accidentally transmitted the disease to their keeper who in his turn infected his medical attendant and nurses. The disease manifested all its ancient virulence, but a knowledge of the cause enabled the plague to be stayed. The much honoured and lamented victims of Vienna have demonstrated to the world at large how the pestilence which walketh in darkness has been illuminated by the full light of science.

We are full of hope as to the good which will follow on the discovery of the malaria parasites in the blood and their transference by means of mosquitoes. The part which insects play in the causation of the diseases of men and animals is proving to be a fertile field of research and it is not impossible that those who are called upon to take up the white man's burden in the tropics may learn to appreciate the labours of those who have sought out the secrets of Nature by way of experiment.

There can be no doubt that the rational and methodical observation of disease, assisted by experiment, has had an enormous influence for good on manners and morals. It is to the leaders of medicine that we owe the recognition of the fact that conduct which we once regarded as sin, calling for cruel and revengeful punishments, is in reality disease which must indeed be controlled with firmness, but firmness tempered with mercy rather than vengeance. It is probable that one of the causes which have led to the decrease of our prison population and the increase of our asylum population has been the gradual appreciation by the educated public that much disorderly conduct is, in reality, disease. We are more ready now than heretofore to "forgive those that trespass against us." There can be no doubt that our increased power of recognising the early stages of brain disease, a power which we largely owe to those who have sought out the secrets of Nature by way of experiment, has made for mercy.

The average man regards medicine as merely the art of curing disease and judges of its progress by the degree to which it enables him to enjoy life, often in defiance of common sense and morality. The higher aim of medicine, however, is to point out man's true relationship to his surroundings in this world. Our relationship to our fellow-men, the lower animals, vegetation, the atmosphere, sunlight, water, and earth can only be determined by the study of "the things which are" and by searching out the secrets of Nature by every means which human ingenuity can devise.

The great causes of strife and uncharitableness have been found in questions which are insusceptible of proof. So soon as proof is furnished by an appeal to experiment all excuse for quarrelling is gone. Who now thinks of vituperating his neighbour because of his views as to the movement of the earth or its probable age?

Our study of the things which are makes for good morals. In relation to the purity of air and water the one thing essential is that we love our neighbour as ourself and that we do unto others as we would they should do unto us. Until the individual reaches this stage of civilisation there can be no permanent advance.

I may, perhaps, here be permitted to state my belief that our relationship to the earth is definite and inexorable and that until this is recognised by the individual and the individual is encouraged to act as his moral sense directs we shall be in danger of unnecessary overcrowding, sterile soil, polluted rivers, putrid estuaries, and poisonous molluscs. It is our neglect of duty in this respect which (among other things) is bringing ruin to many of our endowed charities and seats of learning, which, while they derive a diminished income from their estates, are being crippled by the burden of local taxation, much of which is levied with the express object of carrying fertilising matter to the sea.

Great as are the positive gains of research, the negative advantages are scarcely less important. When a question is moved from the region of conjecture to the region of fact we not only increase the sum of knowledge but we diminish the stock of error. The need of controversy vanishes and we cut the ground from beneath the feet of the quack. Those who now "fall into the hands of the physician" are at least not subjected to treatment which has been proved to be useless. This is a negative gain. I do not claim for medicine any monopoly of quackery. That would not be correct. The money-changers are ever in the temple and false prophets abound. There are plenty of theological quacks, political quacks, legal quacks, and commercial quacks. There is no quack more dangerous to the commonwealth than the enthusiastic politician posturing as a philanthropist, ever eager to incorporate each new scientific fledgeling in an Act of Parliament, and who forgets that the authority of the law may check progress as surely as did the authority of mediæval theology. We used to say, "De minimis non curat lex," but this maxim is scarcely applicable to modern legislation, much of which leads mainly to wasteful litigation, the infliction of trumpery fines and considerable costs, and the maintenance of social parasites.

There have always been two schools of thought in regard to scientific inquiry. One school, fearful lest inquiry into proximate causes should lessen our reverence for the ultimate cause, protests that "all is vanity" and "he that increaseth knowledge increaseth sorrow." The other school finds in wisdom a spirit "clear in utterance ..... unpolluted ..... loving what is good ..... beneficent, loving toward man, steadfast, sure, free from care ..... all powerful ..... an effulgence from everlasting light, and an unspotted mirror of the working of God." It is quite impossible not to admit that our increased knowledge of the laws which regulate the visible universe has increased our living faith and added to the glory of God, while it has made it more difficult for men to make gods after their own image and use them for their own purposes. Modern medicine is teaching us that much bodily suffering is due to man's wilful neglect of the beneficent laws of Nature. That diseases are due to ignorance and disregard of law and are not "sent" as scourges by a petulant and capricious deity is clearly a doctrine which in no way dims the glory of God.

That "the steadfast searching out of the secrets of nature by way of experiment is the most promising path to social progress" is a doctrine which at no time has commanded universal assent. There have always been fatalists who have argued that we must accept without question what is sent us; that we must bow in submission to a "will" without really seeking to find out what that "will" is.

There have always been trustful souls—saved and half-saved—persons with *idées fixes* to whom mental progress is painful—who see sin where none is and who find blasphemy in the simplest acts; for, as Shakespeare says, "There is nothing either good or bad but thinking makes it so." Puschmann records how the nuns of Bologna were offended by the skill and enterprise of Tagliacozzi, the great master of plastic surgery who, as they alleged, had been guilty of blasphemy by presuming to alter the human form. These poor ladies were tormented by voices which repeated the words, "Tagliacozzi is damned," and it is recorded that their frenzy was not quieted until the body of the surgeon had been exhumed and re-interred in unconsecrated ground. It is barely half a century since the use of anæsthetics for the relief of the pangs of labour was denounced as an impiety and contrary to Scripture, and nowadays there are those who object to the simplest and most obvious measures for preventing syphilis, and in the name of purity denounce any attempt to mercifully restrain those whose profession it is to traffic in impurity. The plain practical duty of the physician, however, is to prevent, cure, or alleviate disease by the most direct methods. Those who hesitate to relieve suffering on metaphysical grounds should change their profession.

So, with regard to another burning question, there be those who apparently hold the view that a guinea-pig is of more value than many babies, and that operations on the lower animals, no matter how carefully they be done, if done for the purposes of research, diagnosis, or relief, and not with the object of making mutton tender, pigs fat, or horses quiet, are to be denounced as atrocities. With such as these it is useless to argue. But seeing that many honoured members of our profession have themselves been vivisected by the envenomed tongues and sharp pens of a few noisy people, it may be well to point out that no conviction for cruelty or breach of law has ever been obtained, and that hearsay and the misinterpretation of physiological writings is not evidence, at least on this side of the Channel. The

money collected by these strange apostles of mercy is not spent in the law courts, where mutual cross-examination would be possible, but in attempts to institute a sort of medical excommunication and in efforts to dam the stream of charity by sophistical utterances such as Tennyson pronounced to be "ever the blackest of lies."

Meanwhile, it behoves the medical profession to bear a wary eye lest fanatics should seek to impose immoral tests upon applicants for hospital appointments—tests, be it remembered, which would have excluded Harvey from the service of St. Bartholomew's Hospital. No hospital governor who coquets with tests of this kind can possibly command the respect of our College, nor can we admit that such an attitude towards research can do anything but harm to the cause of the suffering poor.

In this country we have always wisely recognised the uses of opposition. The stability of our political organisation has been largely due to the fact that the party in power is subjected to the ruthless criticism of the Opposition—"the toad ugly and venomous" which "wears yet a precious jewel in its head." So it has been in medicine, where scientific advance has been checked not only by the criticism of the learned but occasionally by the clamour of the prejudiced and ignorant. We have seemed at times to lag behind our neighbours, but our advance, if occasionally slow, has generally been sure. The party of scientific advance is necessarily always a small one and it is possible that the relatively ignorant may cause some temporary discomfort to the learned few. But this is the extent of their power. The true spirit of inquiry, like the divine afflatus of the poet, is not subject to human control, and the laws of Nature are more permanent than Acts of Parliament.

The Hunterian Lecture

ON

THE EFFECTS OF INFLUENZA UPON THE HEART AND CIRCULATION: THEIR CLINICAL MANIFESTATIONS AND THEIR TREATMENT.

Delivered before the Hunterian Society on Oct. 11th, 1899,

BY A. ERNEST SANSOM, M.D.,
F.R.C.P. LOND.,
PHYSICIAN TO THE LONDON HOSPITAL.

MR. PRESIDENT AND GENTLEMEN,—In the first place I thank you very heartily for the honour you have done me in inviting me to deliver this lecture. I am sure that I address a sympathetic audience and I will say no more on this point, for if you know what I mean it matters little what I say. I have chosen a subject which, I think, no one can hesitate to believe to be one of practical interest and importance. Since the later months of the year 1889 we have had influenza with us and there have been for us frequent opportunities of observing the pernicious features of the disease, the acute symptoms of infection and re-infection and the multiple and varied phenomena showing the involvement of various structures of the body, sometimes in close, at other times in remote, time-relations with the signs indicating the original invasion. It cannot be held that science has spoken her last word concerning the malady, and the experience of every member of the medical confraternity may add some facts or observations which may modify our views and add to our stock of knowledge.

On this particular occasion I propose to treat the subject chiefly from the point of view of my own personal observation and in a manner differing from that which I have most frequently adopted. I intend, for the purposes of condensation and brevity, to adopt the didactic rather than the argumentative method. If I show myself dogmatic kindly remember that I fully recognise the possible fallacies of any dogmata. I will not repeat the often-cited lines: I am aware that this is an occasion on which I cannot be corrected at the moment; but I do know that it is open to all in the future to bring their own knowledge to annihilate or to correct these utterances. If anyone has obtained by precise investigation a knowledge which culminates in more correct conclusions I am sure that he will find many opportunities of practically displaying it; but if the deductions I have made from my own observations are fortified by the lessons of your own and others' experience I ask you to accept and employ them with me.

I have usually presented the investigations which I have made in the form of clinical studies. In framing these I have followed the rule, than which I think there could not be a better, displayed before our eyes in the words of Morgagni which we read every week when we open our copy of THE LANCET: "There is no other way of obtaining a precise knowledge on the matters which concern the practice of our profession than that of assembling together the records of cases of disease and of scientific investigations with regard to their morbid anatomy and all that pertains thereto—the observations of others as well as the personal investigations of oneself—and then of comparing these together and learning the lessons of their numerous and varied associations." In these days the results of the labours of co-workers are presented in a large mass of printed matter of the greatest interest and importance. I hope that I have never been unmindful of the value of these records. I have endeavoured to assimilate them. Since I have had what I consider to be a sufficient field for clinical observation I have chiefly relied as a basis for my conclusions on the histories and phenomena of cases which I have personally observed. I have compared my deductions with those of others, and where there has been any difference of opinion I have given my conclusions without fear and without a desire for favour. This is the plan I have always adopted and the one I always intend to adopt, though I cannot commend it as calculated to induce an invariable peace of mind.

I think I may accept it as a premiss that it is a matter of common experience to a medical practitioner to have a patient come to him with symptoms indicating a disturbance of the ordinary comfortable working of the heart, such disturbance having a time-relation with an attack of influenza. My problems are: How shall we classify these cases? What are the causes, ultimate and proximate, of the morbid phenomena? and How ought we to treat them? Before we come directly to our subject a review of the evidence concerning the primal cause of the disease is necessary.

PRELIMINARY CONSIDERATIONS—BACTERIOLOGY.

There can be no doubt that influenza is a disease of infection and, as in the case of all other infectious diseases, that it is due to a micro-organism. I take it as proven that the special micro-organism is the bacillus described by R. Pfeiffer[1] in 1892, and I have little to add to the description of it so graphically recorded by Sir T. Grainger Stewart[2] in his address to the British Medical Association in 1894. As Pfeiffer originally held, the bacillus is found only in cases of influenza and is especially discoverable in the sputa. It is difficult to obtain a pure culture. The bacilli may be cultivated in agar, but more readily if blood be mixed with the agar. Pigeon's blood bouillon was found to be a satisfactory medium by Delius and Kolbe. Pfeiffer recognised the great difficulty of the necessary proof of the bacillus being the true and only agent because of the then impossibility of producing the disease by the inoculation of animals. Most animals are immune, but Cantani's experiments[3] recorded in 1896 are of the highest importance in this respect. Cantani injected pure cultures under the dura mater of rabbits and thus produced the characteristic symptoms of the disease. In from eight to 10 hours the temperature began to rise, the maximum fever being attained in from six to 12 hours; then there was a rapid fall to the normal, and death took place from collapse in from 18 to 36 hours after the injection. Together with the rise of temperature were progressive dyspnœa, paralysis of the extremities beginning with the hind legs, clonic spasms, and then heart-failure. In non-lethal doses chronic meningitis was set up from which there might be recovery. The

[1] Die Aetiologie der Influenza, Zeitschrift für Hygiene, 1892, Band xiii. Vorläufige Mittheilungen über die Erreger der Influenza, Deutsche Medicinische Wochenschrift, 1892, No. 2. Pfeiffer und Beck: Weitere Mittheilungen über die Erreger der Influenza, Deutsche Medicinische Wochenschrift, 1892, No. 21.

[2] Address in Medicine, Brit. Med. Jour., August 4th, 1894, p. 242.

[3] Wirkung der Influenza Bacilli auf das Central-Nervensystem, Zeitschrift für Hygiene, 1896, Band xxiii, p. 265.

post-mortem examinations in the fatal cases showed enlargement of the spleen, congestion of the liver with commencing fatty degeneration, a hæmorrhagic exudate in the peritoneum, and, in some cases, inflammation of the kidneys.

It has been affirmed that the micro-organisms of influenza can be demonstrated in the blood. This assertion was made by Canon in 1893. Such demonstration, however, must be possible only very exceptionally. The presence of the micro-organism in the blood has been denied by all subsequent observers working with improved methods and with greater knowledge of Pfeiffer's bacillus. Yet I have not infrequently found in medical literature that the micro-organism of influenza has been termed the Canon-Pfeiffer bacillus. It is time that a very doubtful doctrine should be discarded and that the term "Pfeiffer's bacillus" should be retained. "The influenza poison," according to my colleague, Dr. Bulloch, bacteriologist of the London Hospital, to whom I am indebted for much aid in these and other bacteriological investigations, belongs to the group of the bacterial *proteins* (Buchner)—i.e., poisons which occur in the *bodies* of the organisms and are not excreted (or only to a limited extent) into the media in which they grow (like diphtheria and tetanus bacilli). The toxin of influenza acts on the central nervous system powerfully. Locally, of course, the effects are exerted mostly on the respiratory system. "It has always seemed to me," says Dr. Bulloch, "that the closest parallel exists between influenza and gonorrhœa in this way. Both influenza-bacillus and gonococcus spread along a mucous surface—in the one case the respiratory, in the other urethral; neither penetrates to any depth. Both are intensely parasitic and are confined to man. Both are difficult to cultivate. Both produce poisons which, of course, are qualitatively entirely different, the influenza protein or poison acting much more specifically on the nervous system than the gonotoxin. Neither organism enters blood, except with very rare exceptions (gonorrhœal endocarditis and other forms of metastatic gonorrhœa, &c.). In fact, the influenza poison which is absorbed into the system acts *par excellence* on the nervous system, as has been clearly shown by Cantani's experiments."

MIXED INFECTION.

It was found very early in the bacteriological investigation of influenza that the microbe of Pfeiffer was very frequently associated with other micro-organisms. The commonest association was with the pyogenic cocci and the pneumococci. The cultivation of the bacilli of influenza in the presence of other microbes, especially staphylococci, has been experimentally studied by Grassberger.[4] In the cases of otitis media and inflammation of the membranes of the brain which are undoubtedly found to be correlated with influenza the intimate concurrence of the proper microbe of influenza with staphylococci, streptococci, and pneumococci has been abundantly demonstrated. In the pneumonia of influenza it has been shown that in some cases only the microbes of Pfeiffer can be found; in others these are associated with the pneumococcus (bacillus lanceolatus); most commonly of all there are found the influenza bacilli and streptococci together. An intimate association with tubercle bacilli has been observed in some cases. Dr. Wynekoop of Chicago found in several instances the diphtheria bacillus and the influenza bacillus in the throats of patients and the clinical symptoms usually suggested the bacteriologic findings. Influenza bacilli were not only found in cases of diphtheria but also in scarlet fever, measles, and pneumonia. In all these it was noticed that there were clinical manifestations which were difficult to interpret until the microscopical examination for the bacilli had been made.[5] These mixed infections go far to explain the variations of symptoms—the resulting toxins produce varied morbid effects.

CLINICAL EVIDENCE OF MIXED INFECTIONS.

I have observed five cases in which there was good evidence that influenza and typhoid fever were running their course concurrently. Two of these were fatal from heart-failure. In another case there was a most serious relapse but ultimate recovery. In the others recovery took place without complications. In patients who have been the subjects of various forms of malarial fever I have observed symptoms which have seemed to me to denote a marked reaction with the influenza toxin. In patients with limited consolidations in the upper lobes of the lungs the diagnosis has often been beset with difficulty. In some cases the fires of tuberculosis have been quickly kindled and the progress of the disease to a fatal issue has been appallingly rapid. In others repeated examinations of the sputa have failed to demonstrate the bacillus tuberculosus, and though condensations in the apices have given constant fear of the existence of phthisis the disease, though it has had a protracted course over many months, has eventuated in recovery. It is not my purpose here to consider the clinical aspects of the many forms of influenza-pneumonia; it is sufficient to say that in some cases the symptoms have been manifested for many months, even more than 12 months.

CLINICAL EVIDENCE OF THE REACTIONS OF THE INFECTIVE AGENCY OF INFLUENZA IN CERTAIN MORBID STATES.

I have observed a considerable number of cases of gout and gouty manifestations in which there has been a course of severe or of peculiar and perplexing symptoms after an attack or after repeated attacks of influenza. I shall return to this point when I come to consider the irregular heart after influenza. I shall only observe that it seems probable that influenza tends to adversely modify the perverted metabolism in the goutily disposed. In the cases of acute rheumatism a superadded influenza infection, I feel sure, imports grave dangers. I have observed several cases of rheumatic heart disease—pericarditis, endocarditis, or both combined obviously in direct association with rheumatism—where infection with influenza has produced a most serious aggravation of the signs and symptoms. One such case under my observation was rapidly fatal from heart failure. On the other hand, I have never had before me trustworthy evidence to show that any ordinary form of endocarditis is brought about by influenza alone. Cases of pericarditis and endocarditis have been noted by several observers as occurring from this disease, but considering the vast number of cases under observation the correlation must be taken as rare. Althaus[6] states that in the German army, where 55,263 men suffered from influenza, six cases of pericarditis and four cases of endocarditis only were noticed. One of these was undoubtedly septicæmic with infective (ulcerative) endocarditis. Parvinski noted endocarditis following influenza chiefly in persons who had already been subject to heart disease previously to the influenzal infection. The cases which he describes as benign seem to me to be those in which the influenza produced cardiac symptoms temporarily aggravating those of the pre-existing rheumatic lesion, and those described as malignant have the features of ulcerative endocarditis. In a remarkable case placed under my care at the London Hospital by my friend Dr. Daly well-marked exophthalmic goitre immediately followed an attack of influenza. There was also valvular disease of the heart (mitral insufficiency). The symptoms of infective (ulcerative) endocarditis followed and the patient died. At the necropsy well-marked ulcerative endocarditis was found. It might appear at first sight that the influenzal infection had initiated all the morbid phenomena. There had been, however, otitis media with suppuration. Undoubtedly the pus-forming organisms were present. The infection, therefore, was not a simple infection by the influenza bacillus, but a mixed infection with the pus-forming cocci which we know to be capable of inducing ulcerative endocarditis. I have quite recently observed the case of a lady, aged 35 years, in whom directly after an attack of influenza there occurred symptoms of ulcerative endocarditis. There had been an old valvular lesion, and not only so, but the development of a loud systolic murmur over the aorta, especially at the back in the left inter-scapular region, made it probable to my mind that an aortitis, such as I shall presently describe as of influenzal origin, had developed. Though influenza may aggravate, and often does aggravate, the dangers of a pre-existing rheumatic heart-disease I am of opinion that it never produces any disease of the heart even remotely resembling the rheumatic.

I am myself convinced that the arthritis which in some cases accompanies and in others follows influenza is a simulated and not a real rheumatism. I have had opportunities of observing many cases in which the early symptoms of fever, attended with pains and swellings of many of the joints, were so closely like those of acute rheumatism that the diagnosis was extremely difficult. The

[4] Beiträge zur Bacteriologie der Influenza, Zeitschrift für Hygiene, 1897, Band xxv., p. 453.

[5] Report of Department of Health, City of Chicago, January, 1899.

[6] Influenza. London: Longmans and Co., 1892, p. 255.

influenza infection was, however, distinctly traced and in none were there affections of the heart and pericardium of the rheumatic form. In other cases the arthritis followed influenza. I acknowledge that in some cases the relations between influenza and rheumatism, or simulated rheumatism, are extremely puzzling and I think misleading. Previously to 1896 I had observed a series of cases in which fever, with sweatings accompanied by pain and swellings of the joints, became manifested in a way that made the diagnosis of rheumatic fever almost certain. There were, however, no rheumatic associations but decided evidence of the probability of influenza. In another series of cases, also in close relation (or in more remote time-relation) with influenza, there were severe and protracted pains in many joints in a manner that suggested to me an acute form of osteo-arthritis. I was very anxious to get the criticism of my brethren on the views which I expressed in relation to these cases, and I embodied the histories and deductions in a paper which I submitted to one of our chief medical societies. The paper was returned to me by the council and I was denied the privilege which I sought of obtaining confirmation or demolition of my conclusions. The paper is already published.[7] Subsequent experience has confirmed these views. In some cases the initial symptoms of influenza closely resemble those of acute rheumatism—there is an extremely painful poly-arthritis with fever and sweatings—but these are no more of the nature of rheumatism than are the forms of arthritis which attend cerebro-spinal meningitis or dengue fever. To call these painful affections of the joints which attend the developments of an acute disease of the nervous elements "rheumatism" would be nothing but an abuse of terms. The more protracted form of severe arthritis which sometimes is manifested in the early stages of influenza, but is more frequently met with some months after the attacks, is of the nature of osteo-arthritis and has not the associations of true rheumatism.

I think it of the highest practical importance that we should differentiate true rheumatism from its many counterfeits. It may seem paradoxical to say that rheumatism is not a painful disease. Our patients for the most part think that all painful affections are rheumatic. Yet the painful arthritis of true rheumatism is only a very small part of the morbid process. It may be insignificant or even entirely absent. Morbid changes affecting the endocardium and the heart structures may occur in the fœtus in utero without the mother participating in the disease. In the child the affections of the joints in rheumatism are often very trivial, and in the adult, though there may be frequent repetitions, the pains in the joints do not last many days and are usually readily controlled by salicin or the salicylates. The rheumatic affections of the heart, however, have a very protracted course and are often strangely symptomless. Clinical observation and morbid anatomy concur to show that all the main structures of the heart may be involved and oftentimes permanently altered by disease of rheumatic origin—pericarditis, which in some cases passes away but in many ends in permanent adhesions and consecutive changes in the heart muscle; endocarditis, which goes through changes (alteration of endothelium and formation of vegetations, exudations and thickenings, fibrosis and contractions, calcareous deformity and degenerations) lasting in many cases for many months or many years, but is unattended by symptoms to mark the course and nature of the morbid changes. The muscle of the heart, the myocardium, may also be profoundly affected, temporarily or permanently, by the rheumatic process. The whole heart may be thus involved (the general "carditis" of Sturges) or there may be varying enlargements of all the structures of the heart (conditions so well studied by Dr. Lees and Dr. Poynton). These all constitute well-defined morbid conditions, phases of the rheumatic heart. The varieties of the truly rheumatic diseases of the heart may, I think, conveniently be considered in two categories—the violent and explosive and the slow and insidious. In the former the attendant signs of arthritis, the *ensemble* of rheumatic fever, are usually present and the disease is acute and severe. If there be endocarditis this results in course of time in thickening and crumpling of the mitral curtains and the induction of the condition of mitral insufficiency. In the latter the course of disease within the heart is slow and is often unattended with obvious symptoms, the mitral orifice becomes narrowed by degrees, and there is the affection known as "mitral stenosis." Of course, there would be no proof of the rheumatic origin of this variety of disease if it were not that in some of the cases there occur obvious signs of rheumatism, and at any necropsy the morbid appearances are exactly those of rheumatic endocarditis.

Arthritis in a rheumatic subject is of course strong *primâ-facie* evidence of any structural disease of the heart associated therewith being of rheumatic origin, but it should be borne in mind that all arthritis is not rheumatic arthritis. The forms of non-rheumatic arthritis are multiple and varied. Inflammation of the joints may occur in relation with mumps, with enteric fever, with dysentery, and with certain acute diseases of the nervous system. I have omitted mention of scarlatinal arthritis, for this is considered by many to be strictly of the rheumatic form. There is very strong ground for belief that the severe and violent arthritic disease known as rheumatic gout, arthritis deformans, osteo-arthritis, &c., has no essential relation whatever with rheumatism.

In all forms of non-rheumatic arthritis symptoms of cardiac disturbance are frequently complained of by the patients. I have noted that the subjects of the rapid heart and palpitations and of the irregular heart are in large proportion the subjects of rheumatic gout. My own observations, clinical and in the field of morbid anatomy, show that there is no endocarditis in these cases, no structural heart disease unless it be dilatation of the heart. The probable pathogenesis and the clinical features of such dilatation I shall touch upon subsequently. I need only say now that in my opinion the heart affections which are in association with true rheumatism differ *toto cælo* from those which are met with in the subjects of osteo-arthritis. In the former there is well-defined organic disease, in the latter disturbance of the nervous mechanism. But in both classes of cases modifying circumstances have to be considered. In the truly rheumatic class nervous perturbations can be epiphenomena and in the class of cases essentially non-rheumatic there may be engrafts upon a pre-existing rheumatism. So also between the truly rheumatic arthritis and the non-rheumatic arthritis, which has essentially in its origin nothing to do with rheumatism, there is a class of cases which I have described as "complicated rheumatism." These are cases in which a tendency to osteo-arthritis (rheumatic gout) complicates a pre-existing rheumatism causing the involvement of joints (especially the small joints of the hands and fingers) which usually escape in true rheumatism, an extension of the involvement of the structures of the joints and a great protraction and aggravation of the sufferings. In true rheumatism the pathological process in the joints is but an exudation from the congested synovial membranes, usually absorbed in a few days; in osteo-arthritis all the structures of the joint—bones, cartilages, fibrous structures, and synoviæ—are intensely inflamed—hypertrophy and atrophy, hyperæmia and degeneration go on together. There is a sort of mania of the joint or joints. The rheumatic heart is in a state of permanent disease or of long-continued liability to organic disease; the non-rheumatic heart of arthritis is affected with, or liable to disorders of, its nervous mechanism and in a minority of cases to degenerations and alterations of its muscle but not to essential organic disease of endocardium, pericardium, or myocardium. If I am permitted to express without argument my views as to the prime factors in these cases I would say that true rheumatism is a disease in which, whatever its *primum agens*, the pathology is essentially humoral with long-lasting effects upon serous membranes, whilst osteo-arthritis is probably primarily a disease of the nervous system causing violent perturbations in the nutritive processes of the joints. This tendency to a ready development of arthritic disturbances or a violent commotion in some cases is the result of a toxin operating upon a certain part of the cerebro-spinal nervous mechanism at any age. The influenza toxin is very potent to produce it. If occurring in a rheumatic subject or in a gouty subject it greatly aggravates the susceptibilities to the cognate symptoms of these diseases. The tendency on the part of the individual which may render him a so-called arthritic or may induce what our continental brethren term "arthritism" is essentially a morbid condition of the central nervous system which may or may not be correlated with rheumatism or with gout. I hope that these expressions of mine will not

[7] Influenzal Arthritis, Medical Press and Circular, June 3rd, 1896, p. 569; The Nature of True Rheumatism, Clinical Journal, Dec. 7th, 1892, p. 81; Non-Rheumatic Arthritis and Some of its Associations, International Clinics, 1893, p. 58; The Treatment of Rheumatism, ibid., 1894, p. 1; Complicated Rheumatism, ibid., 1896, p. 19.

be put down as mere guesses, baseless, formless, and visionary. I devoted my clinical lectures at the London Hospital during two years to a review of cases under my own observation of true rheumatism and of simulated rheumatism. My first lecture on the criteria of true rheumatism was printed in the *Clinical Journal*[8] and some of the succeeding lectures on non-rheumatic arthritis and some of its associations on the treatment of rheumatism and on complicated rheumatism have appeared in the *International Clinic*.[9]

EFFECTS OF INFLUENZA UPON THE NERVOUS SYSTEM.

Sir Thomas Grainger Stewart[10] said in his address in 1894 that in influenza the nervous system suffered the most frequently. He mentioned the well-marked peripheral neuritis which he had observed affecting the hands and feet, the impairments of the integrity of the cord and brain, the meningitis, the congestive and inflammatory changes in the medulla, the pons, and other parts, and the mental aberrations, ranging from mere lowness of spirits to the most pronounced and dangerous melancholia or other serious forms of insanity. Dr. Althaus,[11] who made a very careful and elaborate study of the extant evidence concerning the disease, in 1892 published a most valuable bibliography containing all the important observations of continental as well as English contributors and gave a long record of affections of the nervous system, including post-influenzal psychoses, post-influenzal diseases of the brain and its membranes, diseases of the spinal cord and its membranes, diseases of the peripheral nerves, diseases of the sympathetic system of nerves, and general neuroses. Post-mortem investigations have shown local hyperæmia of brain and membranes, hæmorrhages, exudations (serous in some cases, purulent in others), and in some instances disorganisations and degenerations of the nerve-cells and fibres. Mackay[12] found in a case of cervical meningo-myelitis initiated by influenza swelling of the cord in the cervical region, congestion and thickening of the membranes, adhesions of the dura mater, and thick fibrinous exudations. The cord in the affected area was soft and pulpy and at one part was completely disintegrated. The nerve-trunks in the left side appeared to be wasted. In a case recorded by Ferguson, in which there had been agonising abdominal pain during convalescence from influenza, it is said that the nerves and ganglia throughout the abdomen were found to be inflamed and there was marked degeneration in some of the nerve tissues. The effects of the experimental inoculation of the influenza microbes in inducing inflammatory and destructive changes in the nerve-cells and fibres I have already noted. Amongst the cases under my own observation have been peripheral neuritis—in one case affecting both legs and inducing complete paraplegia—which recovered and in another brachial neuritis followed by wasting of the muscles. In many typical examples there was recovery without wasting. I observed also neuritis involving branches of the fifth nerve evidenced by intense neuralgia. Of influenzal cerebro-spinal meningitis one case recovered, another was fatal, and a case which seemed to be a mixed one of peripheral neuritis with anterior poliomyelitis with much resulting deformity. There were many cases of diseases of the spinal cord,[13] also very marked cerebro-spinal disseminated sclerosis, and a large number of cases in which the functions of the brain were disturbed in minor degree, to say nothing of a large number of "mental" cases—psychoses. There can be no doubt that the well-defined diseases and disorganisations of the nervous elements are due to the toxin of influenza. Seeing that in some cases the organic disease in certain areas of the nervous system, central and peripheral, is manifested in the early stages of the disease and in others not until long periods (often many months) after apparent convalescence, it would seem that the toxin is evolved in some cases early, and that in others the microbes may be long latent before maturing their poison. It might seem possible—inasmuch as the painful and obvious experiences of diseases are repeated at intervals and may even be periodic when there was no evidence of reinfection—that there may be periods of quiescence alternating with outbursts of the toxin; but this hypothesis is not necessary, for the initial effect may be a disintegration of some of the nerve elements in certain areas, leaving these in an imperfect condition—a state of irritable weakness—competent at some periods to fulfil their functions and at others incompetent. The process of healing, of complete restitution, may be, and often is, very slow.

I propose now to revert to my original plan and present a summary of the teachings of my own personal observations of cases in which the functions of the circulatory mechanism have been impaired in close or in more remote, but causal, relation with influenza. I shall classify these under the symptom which was the dominant one in the various cases under observation. In a paper communicated to the Royal Medical and Chirurgical Society on June 12th, 1894, I gave a *résumé* of 100 cases in which these were thus classified: morbid acceleration of the heart's contractions (tachycardia), 37 cases; irregularity of the heart, 25 cases; abnormal retardation, five cases; pain at the heart, 23 cases; and organic disease of the heart, five cases. I do not intend to give statistics on this occasion. I have had a large series of cases under observation since, but I think that the above fairly and generally represents the relative frequency of the morbid symptoms manifested.

THE EFFECT OF INFLUENZA IN INDUCING THE CONDITION OF RAPID HEART.

An abnormal excitation of the heart's contractions occurs as a very frequent, perhaps the most frequent, sequel of influenza. The morbid acceleration (tachycardia) may be persistent for long periods or it may be intermittent and accompanied by the other symptoms of palpitation. In some cases it occurs with, or immediately after, the initial feverish signs of influenza infection, in others it begins to be manifested some weeks or months after the original attack. In the communication mentioned above the cases of morbid acceleration of the heart cited included only those in which the observed rate was 100 or over per minute, this rate persisting for long periods. If we include cases of intermittent acceleration the number observed would be at least trebled. In the cases of persistently rapid heart the majority evidenced little or no discomfort. In one-fourth of the cases the already rapid heart was accompanied by further accelerations with discomfort at intervals. It seemed strange that in the case of a patient whose heart was beating so much in excess of its usual frequency there should be so little subjective discomfort. This is, however, quite in accord with our experience of essential tachycardia in general—a person whose heart is beating 120 times a minute or more may be going about his usual avocations and may say that he is quite well. The vasomotor tone of the arteries seems unaltered, the quickened action causes an increase of the tension within the artery, but the volume is reduced; the pulse is narrow, but the arterial wall is not thickened. The arterial wall becomes relaxed and the pulse dicrotic only when there are painful palpitations or feverish attacks. In other cases are observed the phenomena so frequently associated with Graves's disease—palpitations, flutterings, flushings, perspirations, faintness, and tremors. In a large number there were explosive attacks often occurring at night—paroxysmal dyspepsia with flatulence, nausea, gastralgia, and diarrhœa, associated in some cases with dyspnœa or with short, quick breathing, tachypnœa, and a sense of failing heart. These attacks I have termed "vagus storms": they seem to involve all the tracts supplied by the pneumogastric nerve, but in some cases one area disproportionately to the others.[14] They are often accompanied by headache or interchanged with attacks of migraine.

RELATION WITH CARDIAC DILATATION.

I have no evidence that there is in these cases any association with structural diseases of the heart other than dilatation of its muscular walls, and I have found that such dilatation is comparatively rare. There is no relation whatever between the rate of acceleration or the degree of perturbation of the heart and the evidence of such dilatation. In most of the cases of long-continued acceleration of the heart's action, when the rate was observed on all occasions to be 120 or more, the outline of the heart as determined by

[8] Clinical Journal, Dec. 7th, 1892.
[9] International Clinic, 1893, 1894, and 1895.
[10] Loc. cit.
[11] Loc. cit.
[12] Cervical Meningo-myelitis following Influenza, THE LANCET, August 1st, 1891, p. 229. Clinical and Pathological Observations on Nervous Diseases. Bristol: John Wright and Co., 1894, pp. 3 to 11.
[13] Liverpool Medico-Chirurgical Journal, 1895.
[14] Notes of Three Cases of Disease of the Spinal Cord occurring after Influenza, with Observations, Liverpool Medico-Chirurgical Journal, January, 1895, p. 118; Paroxysmal Dyspepsia, &c., International Clinics, 1897, p. 13; Address on the Investigation of Some of the Nervous Disorders of the Heart, Transactions of the Medical Society of London, vol. xxi.; The Irregular Heart after Influenza, Brit. Med. Jour., Nov. 10th, 1894, p. 1042.

physical examination was not enlarged—in fact, in some cases it seemed smaller than the normal; on the other hand, in some cases where the heart-rate was only slightly accelerated and not many symptoms were complained of there was undoubted evidence of enlargement. I think I observed this enlargement more in males than in females. In the very pronounced cases where all the signs of Graves's disease concurred the heart was usually small rather than large. I am sure that in some cases the dilatation is temporary and, taking the evidence from all sides, I am convinced that the dilatation in these cases is primarily due to an affection of the nervous mechanism—probably a special involvement of some part of the vagus roots and not to a primary disease of the muscle fibre. In a very small minority of cases a permanent enfeeblement of the myocardium may ensue and the dilatation may be more lasting. I have had under observation a few cases in which an acute dilatation of the heart occurred in a manner which convinced me that a nervous lesion was the immediate cause—in fact, there were the associated signs of a neuritis of the vagus. For instance, in a man, aged 40 years, an alcoholic who had an acute febrile disease, no doubt an influenzal infection, the heart became extremely dilated, the pulse-rate went up to 200, and there was great dyspnœa. The physical signs showed that the extreme dilatation receded day by day till the thirteenth day of observation when it was apparently normal. The rate of the pulse dropped from 200 day by day until on the sixth day it was 80, and afterwards 72 and 56. In this case I think an alcoholic neuritis was reinforced by influenzal infection. I have observed similar heart symptoms in some cases of influenzal disease of the spinal cord.

THE EYELID AND GLOBE SIGNS.

I draw attention to these not only because I think that they are important for diagnosis and clinically useful during the observation of the cases, but also because they afford important evidence as to the nervous origin of the disease and of the locality of the areas implicated. The signs, some of which are observed in a majority of the cases of paroxysmal post-influenzal tachycardia, are the following:—1. Retraction of the upper eyelids towards or under the margins of the orbit—Dalrymple's sign, often in error called "Stellwag's sign." The presence of this sign gives the eyes a peculiar staring appearance. 2. A well-marked tremor of both upper and lower eyelids when the patient endeavours to close them gently. This is manifested in the early stages of recovery; it precedes the stage of tonic retraction. 3. The well-known sign called "von Graefe's," in which the upper eyelid does not follow the downward movement of the globe, but remaining near the orbit causes the appearance of a white band of sclerotic above the iris. 4. A disturbance of the normal balance of the muscles in the two orbits so that one eye appears to be on a lower level than the other—Dixon Mann's sign. 5. The well-known prominence of the globes—exophthalmos. That these signs, or some of them, are so frequently observed in influenzal cases of tachycardia goes far, I think, to prove that the origin of the affection is not in the heart or its ganglia, but in the central nervous system. I believe, with Mr. Arthur Maude, that the lid symptoms mentioned are due to changes in the oculo-motor nuclei causing a paresis of the orbicularis and upper facial muscles, which are innervated by fibres derived from the oculo-motor nuclei and passing down to the trunk of the seventh nerve by the posterior longitudinal bundles. Thus the levator palpebræ, insufficiently antagonised, draws the eyelids upwards, the normal correlation of the eyelid with the muscles of the globe is disturbed, and the enfeebled condition of the orbicularis is in some cases manifested in tremor, and, when want of support of the globe is still more marked, the eyeball protrudes. In some cases it has been shown that the paresis in Graves's disease involves the third nerve, for ophthalmoplegia has been noted in a few cases.

TREATMENT OF THE RAPID HEART OF INFLUENZA.

In the first place, I think one should acknowledge failures. I do not know of any drug treatment that can be relied upon to reduce the abnormal rapidity of the heart's action. Digitalis and all such cardiac tonics fail completely. The only conditions in this category in which digitalis is useful is where there is a cardiac dilatation which lasts some weeks, for in the acute forms of dilatation it is inert or harmful. Then it should, I think, be given in full doses—from 10 to 20 minims of the tincture or half a drachm of the infusion or one grain of the powdered leaves—three times a day for three days with intervals of three or more days in which the drug is withheld; or the alkaloid digitalin, two to four granules of Nativelle's each containing one-tenth of a milligramme of the crystallised digitalin, may be administered once in 24 hours for two days consecutively with intervals of at least three days; or a hypodermic injection of a solution of two of the gelatin discs (Savory and Moore) containing $\frac{1}{150}$ grain of digitalin each may be made daily for not more than three consecutive days. The intermittent administration of digitalis or digitalin is, I think, much to be preferred to the continuous. No drug, I think, should be continuously administered which tends to increase the intra-arterial tension or to excite the heart. Iron preparations are generally ill borne. Small doses of arsenic—from three to five minims of Fowler's solution well diluted—administered three times a day constitute the best tonic treatment. Alcohol in forms and doses that quicken the already excited heart is generally to be avoided. At any rate, Champagne and Burgundy, I feel sure, do much harm; whilst Bordeaux claret and the still Moselles are permissible. A simple diet of which milk is a considerable item is the best.

The only treatment of the persistently rapid heart which has reasonable probability of success is, in my opinion, the administration of weak continuous galvanic currents through the course of the pneumogastric nerves as recommended by the late Mr. Cardew. The current should be of from two to four milliampères (from six to 10 of Schall's cells), the anode, well moistened, being applied to the nape of the neck and the kathode, also moistened, in the groove in the neck between the sterno-mastoid muscle and the thyroid cartilage. The administration should be for six minutes and three times a day, the course of the right and the left pneumogastric being treated on alternate occasions. Any good influence from the treatment is manifested very slowly. Improvement rarely begins until the treatment has been pursued for six months, but the recoveries which I have witnessed have been very satisfactory.

In the cases accompanied by any or all of the signs of Graves's disease I have found treatment by thyroid gland, thymus gland, or suprarenal capsules (or any preparations of them) quite useless. Yet in the minority of cases in which there was decided enlargement of the thyroid the application of ice-bags over the swollen gland or the frequent sponging with cold sea-salt water appeared to be followed by much benefit. I can find time on this occasion only very briefly to advert to the treatment of the cases of paroxysmal tachycardia and of palpitations occurring with vagus storms. The one chief indication is to train the patient into conditions of comfort. For the insomnia which occurs in a large proportion of the cases I think the best treatment is a nightly draught containing from 20 to 30 grains of sodium bromide together with a cachet containing 10 grains of chloralamid. A second dose of 10 grains of chloralamid may be given during the night if sleeplessness persists. In some cases trional agrees better than the chloralamid. It is best to avoid preparations of opium or morphia, but sleep must be procured by these in some cases for limited periods.

For the treatment of the cases accompanied by dyspepsia I think the alkaline carbonates are the most useful. In the cases of paroxysmal palpitation of heart-discomfort or of any form of vagus storm the patient should be provided with an agent which gives comfort at the very beginning of an attack, at the slightest warning that a paroxysm is impending. In many cases I have found nothing better, certainly nothing so innocuous, as phenacetin. I generally prescribe a wafer cachet containing eight grains of phenacetin and one of camphor. This is to be swallowed after having been moistened by a mouthful of water directly discomfort is experienced. If the symptoms are unrelieved in half an hour or an hour a second cachet is to be taken. In some cases antipyrin, in 15-grain doses, dissolved in water, is more effectual than phenacetin. If either of these drugs control the symptoms there is a good moral effect upon the patient. He feels that he has a trustworthy remedy at hand and he succeeds in reducing an intolerable discomfort in course of time to reasonable comfort.

THE IRREGULAR HEART OF INFLUENZA.

I think it must be regarded as a matter of common experience that irregularity of the action of the heart is observed very frequently in patients after an attack of

influenza. I gave an analysis of 30 such cases in a paper which was read at the meeting of the British Medical Association in Bristol in 1894.[15] I have had opportunities of observing a large number of cases subsequently. One important, and it might seem unexpected, lesson enforced by a study of these cases is that there is no sort of proportion between the degree of irregularity of the heart and the subjective suffering of the patient. There may be an extreme irregularity, the heart running riot as it were—a *folie du cœur*—and yet the subject of such cardiac irregularity may be wholly unaware of any abnormal action of the heart. On the other hand, a very slight irregularity—a mere occasional intermission—may be attended by extreme distress and præcordial anxiety. This fact should, I think, induce us to keep the attention of the patient as much as possible away from the heart. He should not take observations of his pulse nor fix his attention upon the mode of working of his heart. A patient may be intensely introspective and may even complain of feelings of heart failure when the heart is manifesting a perfectly normal action. Such cases come perilously near mental aberration, but I think that we should endeavour to explain these by physical causes and, taking as proved that the perturbations of the heart's action after influenza are due to changes in the nerve-elements, to ascribe them not to a disturbance of such functions of the vagus as are concerned with the cardiac reflex, but to a disturbance of the nerves which have to do with the sense of well-being of the heart. The prognosis even in the mental disorders due to influenza is more favourable than when such aberrations are due to other unexplained causes. A review of the causes under observation shows most convincingly that there is in a considerable number of cases an association with Graves's disease in all its symptoms or in some of them just as obtains in the cases of rapid heart. In post-influenzal Graves's disease there may be irregularity of the heart instead of rapidity, or as well as rapidity, and I do not think that this point has been sufficiently recognised. In certain cases the conditions of irregularity and of rapidity are interchanged—marked tachycardia occurring at one time and marked arhythmia at another. In a considerable number of the cases of irregularity of the heart after influenza I have noticed a disturbance of hearing or auditory vertigo and the removal of the causes of any reflex disturbance of the nasal auditory mechanism has been of advantage in treatment.

The most important association of the post-influenzal irregular heart is with gout and goutiness. In the gouty generally there have been very serious symptoms; in some cases repeated attacks of acute nephritis, although not the progressive changes of interstitial nephritis; paroxysmal dyspepsia has been more violent than in the other cases. There have been attacks in which one feature has been the abundant excretion of uric acid in the urine (uric acid storms), and in many the heart symptoms, pain, distress, and heart failure, have been very severe, and in some fatal. There are, however, exceptions to the generally grave significance of the heart irregularity in the gouty who have become infected with influenza. In a case which I observed in which an extreme irregularity was manifested after influenza in a gouty subject there was a complete absence of suffering or distress and the patient was quite unaware that the heart's action was other than normal. I arranged that he should not be informed that there was any irregularity and in course of time completely normal action returned.

TREATMENT OF THE IRREGULAR HEART AFTER INFLUENZA.

I have little to add to the lines which I have suggested in regard to the rapid heart. The restoration of regularity of action of the heart is even more slow than the restitution in cases of tachycardia; in many cases irregularity persists though the patient returns to apparently normal health. The treatment of the painful manifestations will be touched upon hereafter. I think the irregular heart is influenced favourably by galvanism in the course of the vagi just as in the case of the rapid heart. The ruling principle of treatment should be the gradual training of the patient into conditions of comfort and regularity. Some of the medicinal means tending to this end I have already mentioned.

The training of the circulation by physical methods is of high value and importance. Massage, muscular exercises, baths, and bathing are agencies of great usefulness, but I cannot discuss these in the limits of this lecture. With these the abstraction of the patient from home cares and anxieties and the institution of climatic treatment, sea voyages, and means whereby the purest possible supply of fresh air is ensured, are now rightly esteemed amongst the most important of therapeutic agencies. So the "cures" elaborated in many of the health resorts of this country and abroad are to be highly appreciated. They are useful for the training of the patient into other and better conditions. I think, however, that the patient should be made to understand that the sojourn at any given place is not the be-all and end-all of treatment, but that he should continue to adopt the rational methods of diet, hygiene, and training which he has learnt and should not slide back into faulty ways. I most emphatically condemn any method of procedure which brings the varying conditions of his disturbed circulation or disordered heart frequently before the patient's mind. Sphygmographic records are valuable in their way and so are recorded observations of the size and shape of the heart, but if the patient be allowed to study these too often I think it tends to the induction of an unhealthy valetudinarianism. We have plenty of evidence of the sometimes evil influence of mind on the cardiac action. We may obtain one cogent illustration if we turn to any manual of Forensic Medicine and read the case of Colonel Townsend, who, by a mental effort, could slow down his heart; he experimented once too often, slowed the heart down to arrest, and died.[16] I would also suggest that the records showing the reduction in the præcordial dulness, often considered to be crucial evidence of improvement, should not be accepted without much discount. Under any treatment or under no treatment there may be variations from day to day and I am myself convinced that the nervous factor in dilatation of the heart has to be taken strongly into account and when dilatation of the left ventricle has occurred from organic disease I am convinced that it is not always a condition to be sorry for; such dilatation may be evidenced when there is complete compensation; in fact, as the late Dr. Herbert Davies[17] conclusively pointed out, it is a necessary condition for complete compensation; for if there be inadequacy of the mitral valve, for example, the left ventricle must have a larger capacity in order to give a due supply to the aorta and just sufficiently supplement the loss due to regurgitation.

POST-INFLUENZAL BRADYCARDIA—THE SLOW HEART AFTER INFLUENZA.

I have had abundant evidence to show that an abnormal retardation of the heart's action may be a sequel of influenza in like manner, though not so frequently, as an abnormal quickening or an irregularity. Such retardation may be paroxysmal or continuous. I have observed the case of a man, aged 65 years, in whom after repeated attacks of influenza the usual pulse of 72 fell to 48 for from two to four hours every afternoon for a week. The periods of bradycardia were accompanied by much distress, so that the fairly active man was obliged to lie down until the pulse had regained or had in part regained its normal frequency. In many other instances of slow pulse after influenza the retardation has persisted during all the time the case was under observation. These rates per minute have been 56 in three cases, 54, 50, 40, 36, and 19. My cases showed that the danger to life in post-influenzal bradycardia was relatively greater than in tachycardia and arhythmia. In some cases pain was severe and such pain was generally epigastric, but the chief danger was from syncope, which might occur with no painful manifestations.

The treatment in cases of slow heart has less satisfactory results than in the other cases of perturbation of the heart's rhythm. Daily massage of the extremities I think to be of service. It seemed probable that the administration of belladonna, 10 minims of the tincture three times a day, had a favourable effect. At any rate, in one of the cases which I have mentioned the pulse frequency under this treatment rose from 19 to 33 and the patient seemed to have much improved; he died suddenly, however, after he had left the hospital.

PAIN AT THE HEART AFTER INFLUENZA.

In THE LANCET of Jan. 2nd, 1892, p. 17, I gave an analysis of seven cases of severe pain at the heart after attacks of influenza which I had observed. In a communication to the

[15] Ibid.

[16] Guy and Ferrier, Forensic Medicine, sixth edition. London: Renshaw, 1888, p. 214.

[17] Herbert Davies and Arthur T. Davies, The Mechanism of the Circulation through Diseased Hearts. London: Lewis, 1889, p. 18.

Royal Medical and Chirurgical Society in 1894 I reviewed the evidence in 23 other cases. In eight of these 30 cases the pain was paroxysmal and the attacks closely resembled those of angina pectoris. The paroxysms of pain were in some cases of extreme intensity. I recorded cases in which complete loss of consciousness attended the paroxysm; a loss of consciousness also occurred in one case where the pain was not intense, only a "dead pain" over the heart being noted. In several cases there were radiations of pain down the left arm, the neck, and the back, and in some there was the feeling of impending death. It would seem, therefore, that the attacks resembled in the closest manner true angina pectoris. Yet none of these cases were fatal. I found no signs of abnormally high intra-arterial tension, and in those persons who manifested the most intense paroxysms the conditions of the heart both in rhythm and in integrity of structure, so far as could be determined by physical examination, were quite normal. I concluded that the cause of the symptoms was a disorder of the nerves alone or of the central nervous system—a form of neuritis or a visceral neuralgia—and not a true angina pectoris. From the evidence presented I thought that in similar cases a generally favourable prognosis would be justified. Further experience, however, failed to bear out this satisfactory conclusion; moreover it went far to indicate the nature of the process by which, in a minority of cases, organic disease of the heart is set up by influenza. I have recorded [18] in an article on diseases of the blood-vessels the case of a lady who after a second attack of influenza manifested intense sternal pain and the aggregate of symptoms of acute aortitis. After great agony for 24 hours the patient died in the night. There was no post-mortem examination. A second case of a lady, aged 61 years, went a more protracted course. After influenza infection there was pneumonia accompanied by intense sternal pain and the development of a systolic murmur at the apex with dilatation of the heart. There was repeated pneumonia The heart disease became chronic and death took place three years after the acute attack of influenza. In this case a necropsy was performed by my friend Dr. Basil W. Walker, and the signs were carefully recorded. Subsequently I have had a series of cases offering both from the clinical side and from that of morbid anatomy evidence of aortitis, extensive or limited, acute, subacute, or chronic. According to the clinical evidence these differ from the acute cases of simulated angina pectoris which recover (1) in that the severe pain is brought about or aggravated by very slight movements or exertion; (2) there is a peculiar "dead-leaf" hue of the countenance and a more marked facies Hippocratica at all times; and (3) that though there may not be a persistent high arterial tension, if the case is observed during a heart attack the radial artery is found to become contracted and narrow and the face and mucous membrane to assume a more pallid hue, the heart again dilating and a flush returning to the face and lips when the attack passes off. At the post-mortem examination it is not difficult in some cases to overlook the appearances or to ascribe them to an old ordinary chronic atheroma. If the living membrane of the aorta be carefully inspected there will be found pale, elevated patches usually just above the aortic cusps and these swellings may be found to encroach upon the lumen of a coronary artery; in the more chronic cases there are also other patches showing the softening and transformation of ordinary atheroma. I believe that any enfeeblement of heart-fibre, any degenerative change therein, is secondary to these changes of acute, subacute, or chronic aortitis.

The morbid signs do not commence in the lining membrane of the aorta. This may be felt quite smooth over the elevations and may even remain thus smooth and normal though subjacent plates of calcareous substances may be palpated and broken by the fingers. The first change is not in the aorta but in the terminal branches of the nutrient arteries of the aortic wall at certain parts—the vasa vasorum. In the adjacent deeper layers of the internal coat may be found round-cell infiltration and in the more superficial layers of the intima the fibres are separated by an œdematous infiltration, thus causing the elevations or swellings. I cannot here consider these changes at any length, but I have made a large number of microscopic observations and some of these are already published in the article in the "Twentieth Century Practice of Medicine," to which I have already referred.[19]

The clinical evidence happily shows the probability that the morbid changes of aortitis may be in some cases limited in locality and there may be a return to good average health. In the case of a man, aged 41 years, watched during successive attacks of influenza, there were periods of intense distress and pain referred to the sternum and right shoulder (and afterwards to the abdomen and epigastrium) together with signs of repeated pneumonia. The paroxysms in this case were intense, but the patient returned to normal, or almost normal, conditions of health. At the earlier period the whole heart was much dilated, but at the later its outline was within normal limits, but systolic and diastolic murmurs (both of slight intensity) told of some imperfection left of the aortic valves. A similar case was that of a lady, aged 37 years, who after repeated influenza, with symptoms of severe præcordial distress, manifested slight and variable aortic murmurs. Sometimes these became inaudible but they were again discoverable though there were no symptoms of heart trouble. In another case, that of a man, aged 49 years, after severe symptoms of cardiac distress, long continued, the sufferings were located at the epigastrium and on many occasions I palpated the abdominal aorta and discovered a localised pulsation, and the question was a very difficult one whether this was simply neurotic or a commencing aneurysm. Happily saccular dilatation did not follow and the patient became restored to fair health. I think it very probable, however, that there was a localised endarteritis in the abdominal aorta which did not go on to adverse changes. I feel that I ought to express this view with much reserve but, from the evidence before me of several cases in which there was no probability of pre-existing disease but the development of signs of slight and limited disease in the aorta or near its valves, and having the most cogent evidence that influenza can induce acute endarteritis and acute and subacute aortitis, I think the conclusion is legitimate that the form of organic disease which, in the absence of other disease-factors, we observe after influenza is that which is due to morbid changes beneath the endothelium and between the fibres of the intima, the patches produced by such changes being scattered over areas of more or less extent. In some cases there are repeated invasions, so that the signs indicate in some parts recent and in others more chronic changes. In the favourable cases there is a limitation of the area and the degenerations of tissues and necrotic changes are arrested, scar tissue alone remaining.

In regard to the treatment of the very acute cases I much fear that no plan is of much avail to avert the fatal tendency, but it is obvious that in the subacute forms therapeutic hopes remain. In addition to the various means of ministering to ease and comfort during the periods of suffering—phenacetin, antipyrin, and hypodermic injections of morphia judiciously employed—I am persuaded that the protracted administration of the iodides as recommended by Huchard is of value. I consider that the best for long-continued administration is the iodide of sodium in from five-grain to 10-grain doses. In the earlier stages this may be combined with ammonia and other diffusible stimulants; in the latter with small doses of arsenic (from three to five minims of Fowler's solution well diluted). I can only very briefly indicate the therapeutic measures to be taken; my chief desire has been to consider the clinical evidence and to deduce certain principles upon which treatment, in my opinion, should be conducted.

I have come to the conclusion of my task with much regret for many sins of omission. I have been able to paint the pictures only with the large brush of the scene-painter and not with that of the artist of miniatures. I am fully alive to my obligations to the pioneers and the great army of progressive medicine, yet in the course of my life I have learned the wisdom of the maxim, "Hasten slowly." I have seen so many so-called infallible systems of treatment rise and fall. Do not let us mistake the penultimate for the ultimate, apparent and varying improvement for real recovery. It is by patient care and by the adoption, not of one system but of all legitimate methods of treatment judiciously applied, that we do our best for those under our care. There is no unerring system, but it is not a meaningless phrase when we say that our ruling principle shall be the gradual training of our patient to health, understanding by health the conditions indicated by the old Saxon word, "wholth"—harmony of function, associated with integrity of structure.

[18] Twentieth Century Practice of Medicine, vol. iv., p. 460.

[19] Neuropathic Dyspepsia and its Correlations with Disturbances of the Rhythm of the Heart, THE LANCET, August 26th, 1897, p. 523; On Some Painful Affections following Influenza, THE LANCET, Jan. 2nd, 1892, p. 14; Diseases of the Blood-vessels, Twentieth Century Practice of Medicine, vol. iv., pp. 460 and 523, also pp. 466 et seq.

ON ACOÏNE AS A LOCAL ANÆSTHETIC IN SUB-CONJUNCTIVAL INJECTIONS.

BY ROBERT BRUDENELL CARTER, F.R.C.S. ENG.,
CONSULTING OPHTHALMIC SURGEON TO ST. GEORGE'S HOSPITAL.

THE employment of sub-conjunctival injections has during the last few years attained a well-recognised and important place in ophthalmic therapeutics, but such injections have been used less frequently than circumstances would have justified on account of the pain, always considerable and often severe, which has followed their administration. Even when the eye has been brought well under the influence of cocaine, or even of holocaine, and the actual injection has thus been rendered painless, the pain has asserted itself after the lapse of a short time, and has often continued without abatement for some hours, so as to render the patient exceedingly unwilling to submit to a repetition of the process. This objection may now, I think, be said to be removed.

Sub-conjunctival injection was first practised, if my memory does not mislead me, by Kussmaul of Munich some 25 or 30 years since as a means of promoting the absorption of corneal opacities; and at one time I used it frequently. The liquid employed was a simple solution of sodium chloride with a few drops of which the sub-conjunctival tissue immediately around the cornea was distended. The cases mostly occurred in hospital practice in the eyes of neglected children, and at that time it was necessary to administer chloroform in order to inject with safety. Used in this way there was little or no subsequent pain, but the process was troublesome, the immediate effect was not considerable, and the practice after a time lapsed into oblivion. A few years ago sub-conjunctival injection was re-introduced in a somewhat different form by Dr. Abadie of Paris; or if not re-introduced by him was at least brought into prominence by his advocacy and example. He employed mercuric solutions, carried the needle to some depth by the side of the eyeball, and injected a considerable quantity, such as half, or even the whole, of the contents of a Pravaz's syringe. A somewhat lively controversy was soon afterwards commenced with regard to the value of the method between French and German ophthalmologists, and was conducted, as it appeared to me, upon grounds that were rather national than scientific. Some German writers declared that sub-conjunctival mercurial injections could not be useful, because they had injected rabbits in the prescribed fashion and had not afterwards succeeded in finding any chemical or other evidence of the presence of the mercurial salt within their eyes. In the meanwhile the French, in the most inconsiderate manner, continued not only to use the injections but to cure their patients by means of them, and to cure them more quickly than was usual by any other method of treatment. But, as I have said above, the subsequent pain furnished a great and valid objection to the process, and rendered many practitioners justifiably unwilling to have recourse to it as long as a good result could be expected from the use of milder means.

In the number of *La Clinique Ophthalmologique* of June 25th last Dr. Darier, one of the editors of the journal, published the first account which I had seen of a new preparation called acoïne, which he declared to be a non-poisonous local anæsthetic having a very prolonged action; and he described several cases in which its use had rendered the sub-conjunctival injection of cyanuret of mercury painless. The statement seemed to me to be so important and the effect so valuable that I obtained a supply of the preparation from Mr. Rogers, of 327, Oxford-street, and my trials of it completely confirm Dr. Darier's assertion. After injecting a mixture of equal parts of a solution of cyanuret of mercury of the strength of 1 in 1000 and of a solution of acoïne of 1 in 100 no pain has been produced even when the injection has been a large one and has been followed by considerable chemosis and even by swelling of the lids. Following the example of Dr. Darier the solvent for both preparations was sterile normal saline solution. The conjunctiva was cocainised for the puncture and the injection was made under the strictest precautions for the avoidance of sepsis. The only complaint made has been of a sense of weight and inconvenience from the swelling, which, of course, has passed away in the course of a short time. Dr. Darier's acoïne is made by the establishment of Heyden at Radebeul, near Dresden. It is a white crystalline powder, soluble in water to the extent of 6 parts in 100. The solution keeps well in the dark and is strongly antiseptic. It may possibly interest some readers to know that acoïne is a "Diparaanisyl-monophenethylguanidinchlorhydrate," but the fact conveys very little information to me. I am content to know that it promises greatly to facilitate the treatment of some of the more intractable inflammatory infections of the eye and that it takes away the only serious objection to the employment of a method which, in properly selected cases, appears to me to be of great and incontestable value.

Harley-street, W.

TWO HUNDRED CONSECUTIVE CASES OF DIPHTHERIA TREATED WITH ANTI-DIPHTHERITIC SERUM.

BY A. J. TONKIN, M.B., B.CH. R.U.I.,
ASSISTANT MEDICAL OFFICER, MONSALL FEVER HOSPITAL, MANCHESTER.

THE following is a review of 200 consecutive cases of diphtheria treated with anti-diphtheritic serum. All the cases were examined bacteriologically and all were considered to be diphtheria clinically. A study of the figures generally, and especially of those dealing with age and sex distribution, will show that there was nothing special about the character or type of the cases, which were all treated in the Monsall Fever Hospital, Manchester.

GENERAL MORTALITY.

Of the 200 cases 45 ended fatally, giving a mortality percentage of 22·5. In 15 cases the patients were moribund on admission and died within a period of 24 hours; if these cases be ignored the mortality percentage figure would be 16·2. In 10 other cases the patients died within 48 hours and in five others within 72 hours of their admission and the commencement of antitoxic treatment, making in all 30 deaths within 72 hours of admission. Now, according to the severity of the case, antitoxin shows no marked clinical results within 48 or 72 hours after the commencement of the treatment, and therefore for our purposes here all of these cases should be subtracted from the total number. If this be done the mortality percentage would be represented by the remarkably low figure of 8·8. That this is the figure which should represent the mortality percentage will be shown later when dealing with the day of the illness on which the treatment was begun. 38 of the total number of deaths occurred within seven days of admission and all within 18 days. The length of life in the hospital in each fatal case is shown in the following table:—

Days in hospital before death	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Number of deaths on each day	15	10	5	1	2	3	2	0	1	1	2	1	0	0	1	0	0	1

MORTALITY IN RELATION TO PART AFFECTED.

To illustrate this relationship the cases have been divided into the following groups according to the situation of the membrane: Group 1, pharynx only; Group 2, pharynx and larynx; and Group 3, larynx only.

TABLE A, *showing the Mortality in the above Groups for all Cases admitted.*

Situation of membrane.	Cases.	Deaths.	Mortality percentage.
Pharynx only	120	19*	15·8
Pharynx and larynx	70	21†	30·0
Larynx only	10	5‡	50·0

* Four died within 24 hours, three within 48 hours, and three within 72 hours of admission. † Seven died within 24 hours, six within 48 hours, and two within 72 hours of admission. ‡ Four died within 24 hours, and one within 48 hours of admission.

Antitoxin was administered immediately after admission in each case, and therefore if the 30 cases dying within 72 hours of admission be subtracted we get all cases dying

within three days of the commencement of antitoxin treatment excluded. Having thus got rid of all cases admitted practically moribund the following table may be drawn up:—

TABLE B, *showing the Mortality in the above Groups after subtracting Cases dying within 72 Hours after Admission.*

Situation of membrane.	Cases.	Deaths.	Mortality percentage.
Pharynx only	110	9	8·1
Pharynx and larynx	55	6	10·9
Larynx only	5	0	0·0

Table B shows that the mortality percentages under the above circumstances are enormously reduced in each group, the reduction in connexion with the laryngeal cases being very remarkable.

MORTALITY IN RELATION TO AGE AND SEX.

In studying the cases classified according to age-periods it will be observed that the use of antitoxin has not altered the periods at which diphtheria is most fatal nor the incidence of attack according to age and sex. It will also be seen later that the saving of life is entirely in relation to the early commencement of treatment and altogether independent of age and sex.

TABLE A, *showing the Percentage of Attacks for Sexes and Age-periods.*

—	1 to 5 years.	5 to 10 years.	10 to 15 years.	15 to 20 years.	Over 20 years.
Male cases	52	33	4	2	4
Female cases...	47	37	8	3	10
Male percentage	52·5	47·1	33·3	40·0	28·5
Female percentage	47·4	52·8	66·6	60·0	71·4

TABLE B, *showing the Mortality at the Different Quinquennial Age-periods.*

—	1 to 5 years.	5 to 10 years.	10 to 15 years.	15 to 20 years.	Over 20 years.
Cases	99	70	12	5	14
Deaths	28	12	3	1	1
Mortality percentage	28·2	17·1	25·0	20·0	7·1

TABLE C, *showing the Mortality for each Year during the First Five Years of Life.*

—	Under 1 year.	1 to 2 years.	2 to 3 years.	3 to 4 years.	4 to 5 years.
Cases	4	6	27	26	36
Deaths	3	3	11	6	5
Mortality percentage	75·0	50·0	40·7	23·07	13·8

TABLE D, *showing the Mortality according to Age and Sex Distribution.*

—	1 to 5 years.	5 to 10 years.	10 to 15 years.	15 to 20 years.	Over 20 years.
Male cases	52	33	4	2	4
Deaths...	17*	4†	0	0	1‡
Mortality percentage	32·6	12·1	0·0	0·0	25·0
Female cases ...	47	37	8	3	10
Deaths...	11§	8‖	3¶	1	0
Mortality percentage	23·4	21·6	37·5	33·3	0·0

* Five died in 24 hours, three died in 48 hours, and two died in 72 hours. † One died in 48 hours and one died in 72 hours. ‡ One died in 24 hours. § One died in 24 hours, three died in 48 hours, and two died in 72 hours. ‖ Five died in 24 hours and three died in 48 hours. ¶ Three died in 24 hours.

Following here the principle previously introduced of deducting all cases admitted moribund the next table may be drawn up:—

TABLE E, *showing the Mortality according to Age and Sex Distribution after deducting all Cases dying within 72 Hours of Admission.*

—	1 to 5 years.	5 to 10 years.	10 to 15 years.	15 to 20 years.	Over 20 years.
Male cases	42	31	4	2	3
Deaths...	7	2	0	0	0
Mortality percentage	16·6	6·4	0·0	0·0	0·0
Female cases ...	39	31	5	3	10
Deaths...	3	2	0	1	0
Mortality percentage	7·6	6·4	0·0	33·3	0·0

Table D shows male mortality greater than female for the years one to five and female mortality greater than male for the years five to 10. The reduction in the female mortality in Table E for the years one to five is much greater than for males, but this may be, and probably is, more apparent than real.

MORTALITY IN RELATION TO DAY OF ILLNESS ON WHICH ANTITOXIC TREATMENT WAS BEGUN.

This section is extremely useful in deducing the value of antitoxin.

TABLE A, *showing the Mortality in Relation to the Day of Illness on which Treatment was begun.*

—	First day.	Second day.	Third day.	Fourth day.	Fifth day.	Sixth day.	Seventh day and after.
Cases	0	39	35	29	25	18	54
Deaths	0	2*	4	7	8	5	19
Mortality percentage ...	0·0	5·1	11·4	24·1	32·0	27·7	35·4

* One died from pneumonia following tracheotomy on the sixth day after treatment was begun, and the other died from measles on the eighteenth day after treatment; neither death was directly due to diphtheria.

The patients dying within 72 hours after commencement of treatment were as follows. 1. Of those dying within 24 hours two were treated on the third day, three were treated on the fifth day, three were treated on the sixth day, and seven were treated on the seventh day and after. 2. Of those dying within 48 hours three were treated on the fourth day, three were treated on the fifth day, and four were treated on the seventh day and after. 3. Of those dying within 72 hours one was treated on the third day, one was treated on the fourth day, and three were treated on the seventh day and after.

TABLE B, *showing the Mortality in Relation to the Day of Illness on which Treatment was begun, after subtracting all Patients dying within 72 Hours of Admission.*

—	First day.	Second day.	Third day.	Fourth day.	Fifth day.	Sixth day.	Seventh day and after.
Cases	0	39	32	25	19	15	40
Deaths...	0	2	1	3	2	2	5
Mortality percentage ...	0·0	5·1*	3·1	12·0	10·5	13·3	12·5

* This would be 2·5 if the case of measles be ignored.

Table A clearly emphasises the immense importance of early antitoxic treatment in all cases of diphtheria

as well as the importance of its use; thus only two of the patients died when treatment was begun on the second day of illness and both of these can be accounted for otherwise than by the direct toxic influence of diphtheria, one at least had nothing whatever to do with that disease. Again, the mortality percentage of cases treated on the third day of illness is only 11·4, while that of cases treated subsequently does not differ from such as were obtained during pre-antitoxic days. If the percentage mortality of all the cases treated during the first three days of illness be taken, a figure is obtained almost exactly equal to that got by subtracting all cases dying within 72 hours of admission in working the total mortality percentage—namely, 8·1; neglecting the death caused by measles this latter figure would be only 6·7. Again, if all cases dying within 72 hours of admission be subtracted from the numbers on the various days of commencing treatment, as has been done in drawing up Table B, it will be seen that the percentages are reduced all along the line, with the exception of that on the second day, and that after the third day the figure is not far from constant, practically following the same gradations as in Table A, but on a lower scale. Neglecting the death from measles the mortality percentage for the first three days taken together would be 6·7 if taken from Table A and 2·8 if taken from Table B, and that for the rest of the time would be 30·9 if taken from Table A and 12·1 if taken from Table B. These figures also represent the approximate percentages for each individual day; surely this could not possibly be due to coincidence, but must be due to the only common item—namely, the time during the course of the disease at which treatment was begun—that is, on or about the third day.

THE RELATION OF ALBUMINURIA AND ANTITOXIN.

The figures given below clearly demonstrate that the appearance and intensity of albuminuria in diphtheria are markedly affected for the better when the treatment by antitoxin is begun at an early stage in the course of the disease and that it is scarcely altered when treatment has been delayed. The tests have been carried out in the ordinary routine ward work by means of heat with acetic acid as an acidifier. The term "trace" means a slight turbidity, a "cloud" means an opacity, and a "deposit" means a sufficient coagulum to form a deposit at the bottom of the test-tube.

TABLE A, *showing the Amount of Albumin according to the Day of commencing Treatment.*

Day of disease on which treatment was begun.	Total cases.	Urine suppressed.		No albumin.		Trace.		Cloud.		Deposit.	
		Cases.	Per cent.	Cases.	Per cent.	Cases.	Per cent.	Cases.	Per cent.	Cases.	Per cent.
Second day	39	—	—	16	41·02	17	43·5	3	7·6	3	7·6
Third day	35	2	5·7	7	20·0	7	20·0	5	14·2	14	40·0
Fourth day	29	2	6·8	3	10·3	9	31·03	1	3·4	14	48·2
Fifth day	25	4	16·0	—	—	5	20·0	2	8·0	14	56·0
Sixth day	18	3	16·6	—	—	2	11·1	3	16·6	10	55·5
Seventh day and after	54	10	18·5	—	—	4	7·4	4	7·4	36	66·6

This table shows that of the cases treated on the second day of illness no albumin appeared in the urine in a large proportion (41·02 per cent.) and that a slightly larger proportion (43·5 per cent.) had a trace only, while a very small proportion (7·6 per cent.) had a deposit. It also shows that the further the day of commencing treatment recedes from the first day of illness the more considerable is the amount of albumin appearing in the urine, the percentages of "no albumin" and "trace" steadily decreasing, none of those treated on the fifth, sixth, and seventh days coming in the "no albumin" list, while those having a deposit are large after the second day and increase rapidly until the high figure of 66·6 per cent. is reached for the seventh day and after. Again, the percentage of cases admitted with the urine suppressed steadily increase as we recede from the second day of illness. That antitoxin itself can have no marked effect on the urine is shown by the fact that no albumin occurred in 26, or 13 per cent., of the cases subjected to the treatment.

Following the plan of deducting patients dying within 72 hours of admission Table B may be drawn up:—

TABLE B, *showing the Amount of Albumin according to the Day of commencing Treatment after deducting Patients dying within 72 Hours of Admission.*

Day of disease on which treatment was begun.	Total cases.	Urine suppressed.		No albumin.		Trace.		Cloud.		Deposit.	
		Cases.	Per cent.	Cases.	Per cent.	Cases.	Per cent.	Cases.	Per cent.	Cases.	Per cent.
Second day	39	—	—	16	41·02	17	43·5	3	7·6	3	7·6
Third day	32	—	—	7	21·8	7	21·8	5	15·6	13	40·6
Fourth day	25	1	4·0	3	12·0	9	36·0	1	4·0	11	44·0
Fifth day	19	—	—	—	—	5	26·3	2	10·5	12	63·1
Sixth day	15	—	—	—	—	2	13·3	3	20·0	10	66·6
Seventh day and after	40	—	—	—	—	4	10·0	4	10·0	32	80·0

Three were taken from those treated on the third day, four were taken from those treated on the fourth day, six were taken from those treated on the fifth day, three were taken from those treated on the sixth day, and fourteen were taken from those treated on the seventh day and after.

The deductions made above do away with all the cases in which the urine was suppressed with one exception, and that patient died early on the fourth day, thus practically getting rid of all those hopeless cases of diphtheritic nephritis with suppression of urine so common in pre-antitoxic days. All the remainder of the deaths were from amongst those who had a deposit. The percentages in relation to those treated on the second day have not been altered; urines having a "trace" only have been increased throughout, the "deposits" are scarcely altered up to and including the fourth day, after which they increase rapidly until on the seventh day the high figure of 80 per cent. is reached.

The following table demonstrates that the liability to albuminuria is practically the same for each quinquennial age-period:—

TABLE C, *showing Albuminuria in Relation to Age-periods.*

—	1 to 5 years.	5 to 10 years.	10 to 15 years.	15 to 20 years.	Over 20 years.
Cases	99	70	12	5	14
Urine suppressed	14	3	3	0	1
No albumin... ...	15	7	1	1	2
Albumin	70	60	8	4	11
Percentage of albumin	70·7	85·7	66·6	80·0	78·5

TABLE D, *showing the Week during which Albumin disappeared from the Urine in Relation to the Day on which Treatment was begun.*

Day of treatment.	Cases.	Deaths.	No albumin.	Albumin.	Week during which albumin disappeared.					
					First week.		Second week.		Third week and after.	
					Cases.	Per cent.	Cases.	Per cent.	Cases.	Per cent.
Second day ...	39	2	16	22*	4	18·1	8	36·3	10	45·4
Third day	35	4	7	24	2	8·3	8	33·3	14	58·3
Fourth day ...	29	7	3	19	2	10·5	2	10·5	15	78·9
Fifth day	25	8	—	17	—	—	6	35·2	11	64·7
Sixth day	18	5	—	13	—	—	2	15·3	11	84·6
Seventh day and after	54	19	—	35	2	5·7	6	17·1	27	77·1

* In one case here the albumin had disappeared before death; all other deaths have been excluded in working the percentages as they all had albumin at the time of death.

From this table it will be seen that the urines clearing up during the first and second weeks after admission steadily diminish as the day of treatment recedes from the day of

commencing illness, while those clearing up during the third week and after rapidly increase. It must be remembered that all except two of the deaths occurred amongst cases treated after the second day, that in each case the urine was either suppressed or there was a "deposit" of albumin, and that in all the fatal cases the albuminuria is likely to have been of a persistent character, so that if those cases could be included all the percentages in the later weeks would be greatly increased with the exception of that on the second day of treatment.

The various tables given in this section clearly demonstrate that the earlier antitoxin is administered in the course of the disease the less likely is albuminuria to appear, the less likely is it to be of a severe character, and the more likely is it to disappear rapidly.

TRACHEOTOMY AND ANTITOXIN.

Of the 80 cases showing evidence of laryngeal mischief 42, or 52·5 per cent., required the performance of tracheotomy; 21, or 50 per cent., of these latter ended fatally; 15 of the 21 fatal cases died within 72 hours of admission; if these cases be ignored the tracheotomy fatality is reduced to 22·2 per cent.; seven of the cases were moribund on admission and died within a period of 24 hours. In none of the pharyngeal cases was it noted that the disease had spread to the larynx after the injection of antitoxin.

TABLE A, *showing the Mortality of Tracheotomy Cases in Relation to Age.*

—	1 to 5 years.	5 to 10 years.	10 to 15 years.	15 to 20 years.	Over 20 years.
Cases	32	8	1	—	1
Deaths...	16	3	1	—	1
Mortality percentage	50·0	37·5	100·0	—	100·0

Thus 50 per cent. of all the cases died and 50 per cent. each of those over and under five years of age; 76·1 per cent. of the cases came within the latter period.

TABLE B, *showing the Mortality of Tracheotomy Cases in Relation to the Day on which Treatment was begun.*

Day of treatment.	Cases.	Deaths.	Mortality percentage.
Second day	5	2	40·0
Third day...	6*	2	33·3
Fourth day	5	0	0·0
Fifth day...	4†	3	75·0
Sixth day...	4‡	2	50·0
Seventh day and after... ...	18§	12	66·6

* Two died in 24 hours. † Two died in 24 hours. ‡ One died in 24 hours. § Four died in 24 hours, three died in 48 hours, and three died in 72 hours.

TABLE C, *showing the Mortality in Tracheotomy Cases in Relation to the Day on which Treatment was begun after excluding all Cases dying within 72 Hours of Admission.*

Day of treatment.	Cases.	Deaths.	Mortality percentage.
Second day	5	2	40·0
Third day	4	0	0·0
Fourth day	5	0	0·0
Fifth day	2	1	50·0
Sixth day	3	1	33·3
Seventh day and after	8	2	25·0

The difference between Tables B and C in regard to the tracheotomy deaths occurring amongst cases treated early in the course of the disease and those treated later is remarkable, all the deaths being thrown on cases treated on and after the fifth day in Table C. It must be remembered that the two deaths amongst patients treated on the second day can be accounted for otherwise than by the direct influence of diphtheria—namely, that one died from pneumonia on the sixth day after treatment and the other from measles on the eighteenth day. Of the other four deaths one died each on the ninth day and the eleventh day from nephritis and one each on the tenth day and fifteenth day from cardiac failure; these latter two were also suffering from nephritis. In each of the cases the tracheotomy was successful. The following list gives the approximate cause of death in each tracheotomy case. The approximate cause only is given because in the majority of cases, and especially amongst those dying just after admission, it is very difficult to state the real cause of death and so the cause given must be taken as the symptom most prominent at the time of death.

Pneumonia.	Measles.	Membrane below tracheal wound.	Nephritis.	Cardiac failure.
1	1	2	3	14

FATAL CASES.

Here, as in the preceding list dealing with tracheotomy deaths, the approximate cause only of death is given, as it is often impossible to allocate each death to any particular cause amongst the many that may lead to a fatal termination besides the direct influence of diphtheritic toxæmia.

Pneumonia.	Other diseases.	Membrane below tracheal wound.	Nephritis.	Cardiac failure.
1	2	2	10	30

POST-DIPHTHERITIC PARALYSIS.

Of the 200 cases treated 16, or 8 per cent., developed paralysis, a remarkably small number. None of these cases ended fatally. The following table shows the incidence of paralysis in relation to the day on which treatment was begun. No cases occurred amongst those treated on the second day, after which there seems to be no advantage as to whether treatment was begun early or late:—

Day of treatment.	Cases treated.	Paralysis cases.	Percentage.
Second day	39	0	0·0
Third day...	35	3	8·5
Fourth day	29	3	10·3
Fifth day...	25	2	8·0
Sixth day...	18	3	16·6
Seventh day and after... ...	54	5	9·2

SYMPTOMS ATTRIBUTABLE TO THE ANTITOXIN.

Erythematous and urticarial rashes occurred in 29, or 14·5 per cent., of the cases treated. The days on which they appeared after the antitoxin was injected are as follows: in 11 cases rashes appeared in from six to 10 days after injection, in 10 cases rashes appeared in from 10 to 15 days after injection, and in eight cases rashes appeared in from 15 to 20 days after injection. Pains in and about the joints occurred in six cases, or in 3 per cent. In two instances an abscess formed at the seat of injection. The plan of injecting a single full dose (4000 units) has been followed.

CONCLUSIONS.

The foregoing figures and statements tend to establish the following results as to the use of antitoxin:—1. The general mortality rate is reduced. The mortality for cases treated during the first three days of illness is reduced to about 3 per cent. and that for all other cases to about 12 per cent. 2. Laryngeal cases treated early are markedly affected for the better, the death-rate being very considerably reduced. 3. The tracheotomy mortality is very much lessened. 4. There is less need for tracheotomy if treatment be begun early. 5. All ages and both sexes are equally affected. 6. The chances of nephritis are lessened. 7. When treatment is begun early albuminuria may

not appear, will probably not be severe, and will disappear soon. 8. Paralysis is lessened for cases treated on the first and second days of the illness. The paralysis mortality is much reduced. 9. Extension of disease to the larynx and parts below was not noted after injection of antitoxin. 10. The only disadvantage noted after its use was a slight discomfort for a few days from urticarial rashes and pains in the joints in a small percentage of the cases. The conclusions arrived at may be taken as a plea for early diagnosis and early antitoxic treatment.

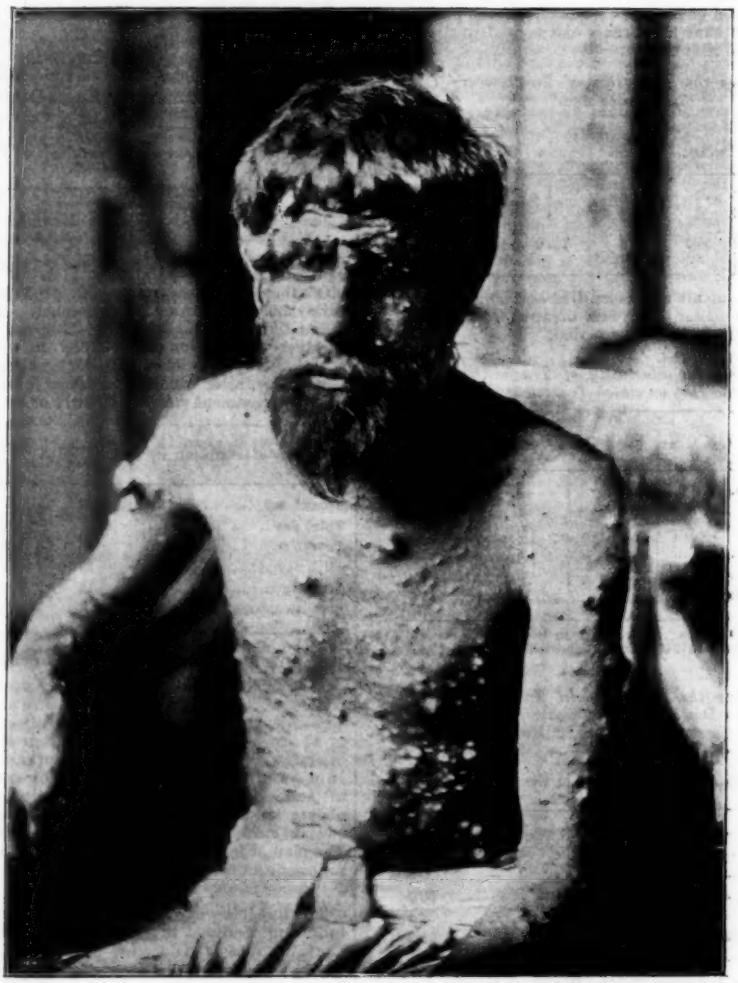
Manchester.

A CASE OF MULTIPLE SKIN FIBROMATA.

BY T. FREDERICK PEARSE, F.R.C.S. ENG.

THE accompanying illustration shows a case of multiple skin fibromata in which the greater part of the body was covered by these curious swellings. They were of various sizes, ranging from that of a pea to that of a small orange; some were rounded, firm, and tough, while others were soft and cystic. They were all freely moveable. The majority were sessile but a few were pedunculated. The patient was a Mohammedan native of India, aged about 40 years. He said that he had had these tumours more or less since he was 10 years of age and that his mother was similarly afflicted. The cause was put down to a burn. It is worthy of note that there were comparatively few swellings on his legs, but on his head, trunk, and upper limbs the skin was almost completely occupied by them. In addition he had a tumour of the size of a small cocoanut at the back of the right hip; this was freely moveable, distinctly circumscribed, and smooth but very hard. This he had had almost as long as the skin tumours.

There is not the slightest appearance or condition to suggest that these tumours are connected with the lymphatics and the entire absence of pain or tenderness as well as their almost complete covering of the body is surely against their association with nerves. The man's general health appeared good.



Calcutta.

PRELIMINARY ACCOUNT OF THE INFLUENCE OF FATIGUE ON THE STRUCTURE OF THE NERVE-CELLS.[1]

BY GUIDO GUERRINI.

THE general symptoms by which fatigue manifests itself are principally of a nervous nature and have been compared by Tissié to a state of hypnotic sub-consciousness. But if we reflect that disorder or alteration of the functional activity of an organ is often the result of an anatomical modification of the substratum we are compelled to suspect that in consequence of fatigue the nervous centres may also show some alteration in their morphological structure. The naked-eye examination of a fatigued brain does not reveal, for the most part, anything remarkable except a certain amount of hyperæmia; microscopical examination has not yet been made, as far as I know, at least by the more recent technical methods. The only researches that have been made relate to the influence of fatigue on the structure of individual ganglia, and of these the most remarkable are those of Hodge,[2] who observed that the nerve-cells of several ganglia in sparrows, swallows, pigeons, bees, &c., show in the evening, subsequently to the day's work, the following morphological characteristics: diminution of the size of the cells; increase of the pericellular lymphatic space; vacuolisation and chromophobia of the protoplasmatic mass; and diminution of the nucleus, which loses its reticulated aspect and displays a conspicuous chromophilia and a dentellated circumference. Hodge is the only investigator who has studied nerve-cells that have been subjected to really physiological fatigue. Other investigators, and they are not few, have on the other hand conducted their observations on cells fatigued by an artificial and especially by an electrical stimulus In the following researches only a physiological cause of fatigue was employed. I made 12 dogs run, within an apparatus resembling that used by Grandis,[3] until they evinced symptoms of very evident fatigue. Afterwards I killed the animals with numerous special precautions and sought for the alterations caused by the excessive work in the structure of the nerve-cells of the cerebral and cerebellar cortex. This method of research enabled me to ascertain the distance covered by each of the dogs before they manifested the above-mentioned symptoms of complete fatigue. This distance was ordinarily between 35 and 98 kilometres—i.e., between 22 and 61 miles. The alterations found in the nerve-cells were as follows: (1) an increase of the pericellular lymphatic space; (2) the presence of leucocytes upon the cell in the pericellular lymphatic space; (3) disorder of the rete achromaticum; (4) decomposition of the pigment masses which were sometimes reduced to an accumulation of small fragments; (5) the presence of vacuoles in the protoplasmatic mass; (6) irregularity of the margins of the nucleus; and (7) the presence of vacuoles in the nucleus. These modifications, although they may sometimes show themselves in the normal nerve-cells, were in the above-mentioned fatigued cells undoubtedly a consequence of excessive work. In fact, the more the dog had been fatigued the more profoundly altered the nerve-cells of its cerebral or cerebellar cortex were found to be.

Moreover, all the above-mentioned alterations do not appear simultaneously in the nerve-cells. The two modifications which are the first to show themselves have always been (1) the increase of the pericellular lymphatic space; and (2) the decomposition of the pigment masses. This process of destruction was not always of constant type, because it sometimes began at the circumference, sometimes at the centre of the protoplasmatic mass, and sometimes immediately on the nucleus. The first case, however, was always the most frequent.

These are, briefly, the modifications which fatigue produces on the microscopic structure of the nerve-cell, and more evidently in that of the cerebral than in that of the cerebellar cortex, and most of all in the structure of those nerve-cells which correspond to the motor zones. I will return to this subject as soon as I can publish the results of other and more complete researches which I have recently terminated, and in the meantime I give in this preliminary note the results which I have already obtained.

Pathological Institute of the University of Bologna.

[1] Vide La Reforma Medica, year XV., No. 101. Palermo, 1899.
[2] A Microscopical Study of Changes due to Functional Activity in Nerve-cells, Journal of Morphology, vol VII., p. 15. Boston. 1892.
[3] Influenza del lavoro muscolare, del digiuno e della temperatura sulla produzione di acido carbonico e sulla diminuzione in peso dell' organismo, Memorie della Regia Accademia dei Lincei, anno 1888, &c.

THE CLINICAL CHARACTERS OF THE PLAGUE EPIDEMIC IN INDIA.

BY HAROLD W. BRUCE, M.B., B.S. LOND.,
LATE MEDICAL OFFICER ON PLAGUE DUTY, BOMBAY.

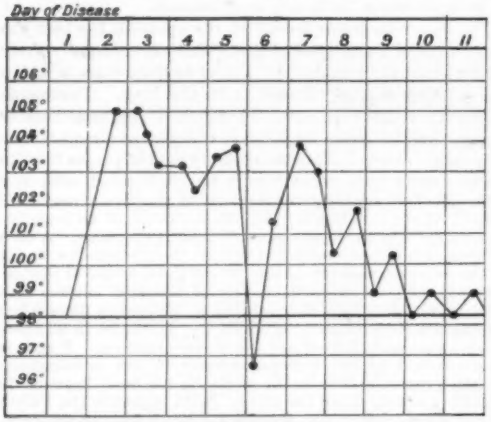
IN view of the invasion of Europe by plague the following account of the clinical aspects of the disease as manifested in the epidemic in India may be of interest.

The most remarkable feature of the epidemic has been the appearance of a variety of plague which has apparently never before been fully recognised. I refer to those cases in which the primary seat of disease is in the lung. Pneumonic plague has constituted about 7 per cent. of the total number of cases and possesses the interest of being an almost invariably fatal disease. While an ordinary case of plague is quite characteristic and could hardly be confounded with any other affection yet the general course of the disease resembles that of other acute fevers which are the result of an intoxication by the poisonous products of micro-organisms. A case of typhus fever or malignant scarlet fever resembles, as far as the general condition of the patient goes, a case of plague. There is the same severe depression of the vital centres with fever and its accompanying symptoms, while each disease has its characteristic features in addition. No doubt in all there is a similar causation—a specific micro-organism. Plague is characterised by the extreme severity of the intoxication. In the present epidemic the mortality has been between 70 and 80 per cent. of all the cases. With regard to the length of the incubation period there is not much certain evidence, except as regards its limit. A detention in quarantine for ten days has been practically always successful in eliminating the infected cases, and that may be regarded as the maximum period. It may be as short as two days. Five or six days is probably the most frequent duration of the period. While no age has been quite exempt, yet the disease has principally attacked young adults. Out of 3570 cases no fewer than 1350, or almost 38 per cent., of the patients were between 20 and 30 years old. From 10 to 20 years and from 30 to 40 years were the periods during which there was the next greatest number of attacks, and, indeed, 80 per cent. of the total cases occurred between the ages of 10 years and 40 years. Little children seldom contracted the disease; only 56 patients were below five years of age, while patients over 50 years of age made up but a little more than 4 per cent. of all the cases.

Bubonic plague.—The onset of the disease is generally rapid, but now and then malaise for a day or two precedes the appearance of severe symptoms. Vomiting is the most common premonitory symptom, a rigor occasionally occurs, and diarrhœa rarely ushers in the disease; but none of these are at all frequent. Headache, sometimes exceedingly severe, is almost constantly present from the outset. There are, however, a few more characteristic symptoms which often first appear at an early stage before the temperature has risen much or before the appearance of a bubo, and the study of these is of the greatest importance, since the earliest possible detection of cases is essential in the treatment of an epidemic the spread of which is effected almost entirely by human agency. Some of these symptoms are very characteristic and their detection, even when little marked, as they generally are during the first few hours of the disease, has often led to a correct diagnosis at this early stage. The facial aspect of the patient and his speech are the most important. The former loses all expression and becomes dull and emotionless; the eyes become listless and the eyelids droop a little. The appearance of the sick man is very like that of a person dulled with alcohol. A look of dread and anxiety has been described, but it is not so common or characteristic. With the change in the patient's expression is often combined an

equally important alteration in his speech. It is blurred and indistinct with long-drawn-out syllables, closely resembling the dull, sleepy speech of a man half unconscious from alcohol, or sometimes more like the incoördinate articulation of the general paralytic. The mental condition exactly corresponds. The patient only answers when shouted at and then slowly turns his head and, after an interval, replies with the blurred utterance described above. An increased respiratory rate is fairly often observed quite early in the course of the disease and occurs even apart from pneumonia or any particular lung complication.

After the first onset the disease progresses rapidly. The temperature quickly rises, in severe cases reaching its maximum within 24 hours, more often on the second or third day. The degree of pyrexia varies between 101° and 106° F., and the amount of the rise is no particular test of the severity of the case. In the most fatal cases the temperature may not rise above 101°. A temperature of 105° or more must, however, be considered of grave import (see chart). With the



The chart shows the considerable fall of temperature associated with the collapse of the fifth day and the rapid recovery after this usually fatal occurrence.

rise of temperature are associated a hot, dry skin and in most cases at an early stage a rapid, full, and compressible pulse. The tongue is evenly coated over the dorsum with a white fur; the tip and edges are clean; frequently it is dry to the touch, as is also the mucous membrane of the mouth. Now and then a brown streak down either side of the middle line is seen, but beyond the dryness there is nothing characteristic about the tongue in plague. Thirst is seldom complained of. The conjunctivæ are injected. The spleen is very rarely perceptibly enlarged. While these symptoms develop the changes in the speech and aspect described above become well marked. The time of the formation of the bubo, the most characteristic symptom, varies. Its appearance may be the first sign of the disease; most commonly it develops while the temperature is rising, on the second or third day; rarely its appearance is delayed until as late as the eighth day of illness. It consists of an inflammatory enlargement of one or more lymphatic glands together with exudation into the periglandular tissue. Very often pain and tenderness are present before any enlargement of the gland can be made out, but this is soon followed by a perceptible tender swelling. The formation of the bubo varies greatly. It may consist of only one inflamed gland with very little surrounding infiltration, and this is all that is present in some of the most rapidly fatal cases. In the commonest type there is a large mass consisting of several enlarged glands blended together by the surrounding exudation. Occasionally one small gland with a very large amount of infiltration constitutes the swelling. In the case of buboes in the axilla and neck a large amount of exudation is frequently present and it may be stony hard in consistence and may extend on to the chest wall or interfere with important structures in the neck. This type of case again is exceedingly fatal. Œdema from pressure on the veins is sometimes seen. By far the most commonly affected glands are those in the groin. In almost the half of all the cases of plague the inguinal or femoral glands, or both, are alone enlarged. The next most common situation is the axilla, in about 17 per cent., and then the glands in the neck, the cervical, submaxillary, and parotid glands in order of frequency. Enlargement of the supra-trochlear, iliac, and popliteal glands occurs but rarely. The bronchial and mesenteric glands have been found swollen at post-mortem examinations. Finally, in about 8 per cent. of the cases more than one set of glands has been affected.

The further course of the bubo is cut short in the majority of cases by the death of the patient. In about half of those who survive resolution takes place, the swelling generally subsiding rapidly in the course of two or three weeks after the temperature has fallen; in the remaining half suppuration with more or less sloughing occurs. An abscess is formed, the contents of which differ greatly in character. Almost invariably it contains with the pus at least a small amount of glandular slough. The pus is generally thick and yellowish, sometimes thin and watery, and sometimes very foul. Large masses of necrosed gland are sometimes discharged and blood-clot is fairly often present in the abscess. Sloughing of the skin and tissues over the gland takes place in some cases, but when this has occurred it has almost always been found that some native counter-irritant has been applied. By the separation of the sloughs the deeper structures, muscles, and blood-vessels may be exposed and a few cases have occurred in which important vessels have been opened by the ulcerating process. After the evacuation of the pus and separation of the sloughs the bubo slowly granulates. Sometimes suppuration does not occur for some weeks after the temperature has fallen. The swelling remains stationary or very slowly diminishes and then sooner or later breaks down and an abscess is formed. With regard to the question of the presence of pus a curious thing has been noticed in a few cases. Definite fluctuation has developed in the swelling and then complete absorption has taken place without surgical interference.

To return to the course of the disease. The severity of the symptoms rapidly increases from the first onset. The mental dulness deepens into unconsciousness or the patient becomes delirious. He may be exceedingly violent and only with difficulty restrained from getting up and running about, but more often the delirium is of a quieter type. The patient mutters incoherently or talks nonsensically and occasionally attempts to get up. Sleeplessness is often a most distressing symptom. Sordes collect about the teeth and lips. There is complete loss of appetite and persistent intense headache. The bowels are generally confined, but diarrhœa is sometimes present and in fatal cases there may be incontinence of fæces. Albumin is almost always found in the urine. The pulse soon loses the full, bounding character of the first few hours and becomes small, compressible, and rapid, sometimes markedly dicrotic. At a later stage complete unconsciousness develops, the pulse becomes imperceptible, and the respiratory movements are shallow and rapid. The extremities become cold, while the trunk is still burning hot to the touch, and death rapidly ensues. The duration of the disease may be only a few hours. In a typical case it is never more than a week. Death most frequently occurs on the third or fourth day of illness. In cases which recover, the temperature having rapidly reached the maximum gradually falls more or less irregularly and reaches normal by about the tenth day. By that time the other symptoms have mostly disappeared and the patient is convalescent though very weak and emaciated and in all probability still mentally feeble. Suppuration of the bubo may, however, prolong the illness and if the discharge continues to be profuse, especially from multiple buboes, may ultimately lead to the death of the patient.

Varieties.—The above types represent the majority of the cases of bubonic plague, but all degrees of the severity of the intoxication are met with. The mildest forms, to which the names of "pestis ambulans" and "pestis minor" have been given, are important on account of the extreme difficulty of diagnosis. Glandular enlargement with a short pyrexia and a little malaise with headache constitute the whole illness. The importance of these cases as regards the propagation of the disease is not yet understood. In the most acute cases the intoxication is so intense that the patient dies within a few hours, generally before a bubo becomes perceptible. Unconsciousness rapidly supervenes and the pulse and respiration fail. This has been called the septicæmic form and corresponds to the fulminant type of previous epidemics.

Complications.—In addition to the symptoms described above, which the majority of patients present, the following appear in a limited number of cases only. Ophthalmia is

often present and now and then leads to corneal ulceration and loss of sight. Aphasia occasionally develops. It may appear at any stage of the disease and recovery is usual. A few patients develop a condition of extreme irritability; they lie on one side with the legs drawn up and vigorously resent any interference. The converse condition of extreme apathy is also occasionally seen; the patient lies motionless for days, responding only to strong stimuli, never speaking or taking notice of anything and is only fed with difficulty. Recovery has taken place in some of these cases, the patient very gradually returning to a normal mental condition. Skin lesions are infrequent; large blisters occasionally appear and frequently the area covered by them sloughs. Furuncles are sometimes seen and sloughing of areas of skin is a rare complication. Subcutaneous hæmorrhages are extremely rare. Hæmorrhage from the mucous membranes has occurred in a few fatal cases. Vomiting of bright-red blood or of altered blood (black vomit), melæna, and uterine hæmorrhage are all rare and death from the amount of hæmorrhage alone is still more uncommon. Pregnant women generally abort, and this event, though usually fatal, is not always so. Arthritis is fairly frequent in cases which recover. It generally appears when the patient is entering the convalescent stage and the temperature has fallen. The symptoms are pain, tenderness, and effusion into one or more joints, the knees being especially liable to be affected. Complete recovery is usual. The most important complications are those which involve the lungs or heart, and these most often lead to a fatal issue. These complications may, and often do, develop in cases which appear mild and likely to recover, and thus the prognosis in plague is always doubtful. Gradual weakening of the heart's action sometimes occurs. The patient may at first not appear to be seriously ill, but from day to day the pulse increases in rapidity and decreases in force until it fails altogether. Sudden heart failure is not infrequent. It generally occurs when the patient seems on the road to recovery. It may be the termination of the gradual weakening described above, but now and then there is nothing in the pulse just before the fatal event to lead to any suspicion of the nearness of death. Some slight effort is made: the patient sits up or tries to get out of bed, or perhaps has just taken food, when he falls back dead. Secondary pneumonia, though not so fatal as the primary form, is still a dangerous complication. Physical signs sometimes point to a lobar pneumonia, but broncho-pneumonia similar to that present in pneumonic plague has been found post mortem. Very few necropsies have been made on these cases which constitute, of course, only a very small proportion of the total number and are by no means always fatal, so that exact knowledge is still wanting. A most remarkable condition of œdema of the lungs sometimes causes the death of the patient. It occurs frequently with the greatest rapidity. The lungs appear to be choked with secretion, there is intense dyspnœa with no pain or rise of temperature, and the condition of the patient soon resembles that of the last stage of chronic bronchitis, with the exception that a few hours produce a state which only results after years of bronchitis. This complication most often appears towards the end of the first week of illness but it may develop earlier. Post mortem the lungs are full of secretion but there is no pneumonia. The explanation of the condition is very difficult. Pressure upon the pulmonary veins by enlarged mediastinal glands has been suggested. It occurs too rapidly to be satisfactorily explained by hypostatic congestion.

Pneumonic plague.—This form is, as already mentioned, almost invariably fatal. The lungs are primarily attacked by the disease which produces a diffuse broncho-pneumonia. Areas of consolidation are scattered throughout both lungs and plague bacilli are present in large numbers in these patches and in the sputum. The onset resembles that in bubonic plague; respiratory symptoms are not generally present at the outset and may not be marked for a day or two, but in most cases severe symptoms develop with great rapidity. The most striking is the dyspnœa, which soon becomes most urgent. The respiratory rate may be as much as 90 per minute and the movements very shallow and distressed. There is great pain in the chest, not usually localised to one place, but general, and occasionally this pain is referred to the abdomen. Rarely no pain at all is complained of. In addition there are cough and expectoration. The sputum is generally scanty and streaked with bright-red blood. It may be profuse or watery or uniformly coloured with the blood which is more intimately mixed with it. In a few cases there is the rusty sputum of lobar pneumonia, but this is quite exceptional. Definite physical signs of consolidation are absent in the great majority of patients. Rhonchi and râles can be heard but dulness and tubular breathing are seldom present. The patient may rapidly pass into a stupid dulled condition which soon lapses into complete unconsciousness. On the other hand, he may be quite conscious when the above symptoms are well marked. The patient's aspect then is not easily forgotten. His face, drawn with pain and full of fear and anxiety, makes a striking picture as he gasps out his complaint of intense pain. Unconsciousness supervenes, the pulse, rapid and small from the first, becomes quite imperceptible, and death soon occurs. Death is always rapid and almost always occurs within three days from the onset, sometimes within the first 24 hours. A bubo is occasionally made out during life and in those cases where none was perceptible glandular swelling has been found post mortem. The diagnosis of pneumonic plague from lobar pneumonia and from broncho-pneumonia with which it was confounded before it was fully recognised is very easy. The onset with severe general symptoms without anything definitely pointing to disease of the respiratory organs and the extreme severity of the respiratory symptoms when developed, quite out of proportion to the amount of disease as indicated by the physical signs in the chest, are both distinguishing features of great importance. The general condition of the patient, the great prostration, with weak rapid pulse, is quite different from that in pneumonia. The sputum is characteristic, only very rarely does it resemble the rusty sputum of lobar pneumonia. Finally, the discovery of the bacilli of plague in the sputum is conclusive.

CÆSAREAN SECTION IN A COTTAGE.

BY FRANCIS WILLIAM JOSHUA, L.R.C.P., L.R.C.S., L.M. EDIN.,
SURGEON ACCOUCHEUR TO THE GREAT MALVERN SAMARITAN CHARITY.

THE following case is, I think, worthy of record on account of the rare form of deformity which was present, the case being one of spondylolisthesis, and also that a successful result was obtained, as the patient lived with her husband in one room in a small cottage which was extremely dirty and insanitary.

The patient, an anæmic, spare little woman, aged 21 years, when a child and learning to walk was dropped, causing injury to the spine which necessitated protracted rest in the recumbent position. It was not until three years later that she was able to attempt walking. She went into domestic service at the age of 17 years and remained so employed until her marriage in June, 1898. Menstruation commenced at the age of 15 years and had been perfectly regular since until she became pregnant. She had had no miscarriages. Her family history was unimportant.

On May 11th, 1899, at 10 A.M., I was sent for by the midwife to the Samaritan Charity, who had been with the patient for about an hour. From the patient's statement labour must have commenced at 10 o'clock on the previous night. The pains on my visit were frequent, almost continuous. She was much exhausted and was evidently in great suffering. I found the right hand of the child protruding through the vulva; it was dark purple in colour. The vagina contained besides the arm a loop of the cord, which was pulseless, and following the arm up I came upon a hard mass which I could not define clearly. Having obtained the assistance of Dr. Jacob, who administered chloroform, I introduced my hand into the vagina and found a hard rounded mass above the promontory of the sacrum, apparently the last two or three lumbar vertebræ, bulging forward, and in front of this was the posterior lip of the os uteri much swollen, then the tip of the shoulder tightly impacted against the symphysis pubis. I managed to pass my finger over the shoulder, and found the head of the child flexed on it. I estimated the conjugate diameter to be not more than two inches.

Dr. Jacob agreeing with me that the only mode of delivery was by Cæsarean section and that the patient was too exhausted to permit of her removal to more healthy surroundings, I obtained the services of Dr. Shaw Bond, who administered chloroform, and of a trained nurse, who, with the midwife, rapidly prepared the room and improvised a

table. The patient was given a perchloride of mercury douche, 1 in 2000, the urine was drawn off, and the surface of the abdomen was thoroughly cleansed, first with soap-and-water and then with ether. I proceeded to open the abdomen in the usual way in the middle line by a four and a half inch incision, commencing one inch above the umbilicus. There were no vessels to tie and the oozing was insignificant and easily stopped by pressure. The uterus at once presented and having located the placenta in the posterior part of the fundus Dr. Jacob applied the edges of the incision in the abdominal wall to the sides of the uterus so as to shut off the abdominal cavity. I commenced by making an incision in the wall of the uterus of the same size as that in the abdominal wall, and was proceeding to dissect down to the membranes, but the bleeding was great, and having in view that the child was dead I plunged the knife into the uterine cavity and slit up the uterine wall rapidly on my fingers. Dr. Jacob then held the edges of the uterine incision apart, which controlled the hæmorrhage, and seizing the right arm which presented I proceeded to extract the child. This required considerable force as the left arm was completely wedged between the projecting substance and the pubes. The placenta and membranes quickly followed the child. Having sponged out the uterine cavity and cleared it of clot it was kneaded and contracted to the size of a cocoanut. At this time the bowels protruded rather freely, but were easily controlled by folded towels wrung out of hot carbolised water. The uterus was then turned out of the abdominal cavity and 12 silk sutures were inserted through the substance of the muscle, but not through the mucosa. It was then dropped back into the abdomen again and the pelvic cavity was thoroughly cleansed. The abdominal incision was closed with silk sutures, including the peritoneal membrane alternated with superficial ones of silkworm gut, strapping was applied, and dressed with several layers of carbolised gauze and a layer of Gamgee tissue, the whole being held in place by an ordinary binder. The patient was much collapsed and on being placed in bed she was injected hypodermically with ether, strychnine, and ergotin, and was surrounded by hot bottles. Five hours later reaction had set in.

The after course of this case was uneventful. The abdominal wound healed by first intention. Some of the stitches were removed on the seventh day and the rest on the tenth day after the operation. The temperature in the evening of the day of the operation was 100·5° F. and never subsequently rose higher. There was some trouble with the breasts lasting about a week and also with the passage of a few decomposed clots. She was douched every four hours with a solution of Condy's fluid. The patient menstruated for one day on June 8th and then again on June 27th, which on this occasion lasted five days and was free from pain. She has been quite regular every month since and is now in perfect health.

Naturally my sole regret with regard to this case is that I was unable to remove the ovaries. The woman was, however, so much exhausted before the operation and by the subsequent loss of blood, although this was promptly checked, that it was deemed advisable to close the abdomen as rapidly as possible and to get her back to bed. It is curious that on subsequent examination of the patient there was no apparent distortion that would lead one to suspect a diminution of the conjugate diameter of the pelvis.

My thanks are due for the able assistance which I received at the hands of Dr. Jacob and Dr. Shaw Bond.

Great Malvern.

SUMMER DIARRHŒA: ITS PROBABLE CAUSE.

BY H. POOLE BERRY, M.B. LOND., M.R.C.S. ENG.,
MEDICAL OFFICER OF HEALTH OF THE BOROUGH OF GRANTHAM.

IN THE LANCET of Dec. 5th, 1896, p. 1597, I narrated an outbreak of typhoid fever due, in my opinion, to a specific infection of the superficial subsoil and expressed the belief that the specific micro-organism had been cultivated in this subsoil under conditions of temperature and surroundings congenial to itself. Since this outbreak many epidemics have been traced presumably to a similar cause, and the experiments of Dr. Sidney Martin and Dr. John Robertson have proved that (experimentally, at any rate) the "enteric" micro-organism can be cultivated in organically polluted soil. In the same paper I expressed the belief that "summer diarrhœa" was caused under somewhat similar conditions, a belief which, to my mind, is probably a reality. It is certainly beyond doubt a fact that "summer diarrhœa" is in evidence, at any rate, in many localities as soon as a certain elevation of temperature has been noted for a definite time. It seems hardly likely that this complaint is simply the direct result of a high temperature upon the individuals attacked; the symptoms are so distinctly different from those of simple sunstroke or heatstroke. Then, again, there is every reason to believe from the symptoms that the illness is a definite disease allied to the specific fevers, which are now universally acknowledged to be due to the action of micro-organisms. I mean that it is not merely an exhausted state of the system caused simply by the increased alvine discharges, nor indeed are the symptoms similar to those which follow the ingestion of unwholesome food. The sudden invasion with marked prostration and facial expression, indicative of toxic effects even before the diarrhœa is copious or even after it is checked, suggest a definite affection of the whole system, over and above the mere exhaustion consequent upon the diarrhœal discharges.

If, then, we admit that the disease in question is due to microbic development, in what direction are we to look for the production of the presumed micro-organisms or for their sudden and definitely pronounced activity, causing these well-marked and pronounced symptoms? The disease can scarcely be spread by infection from person to person, for it is so universally present in various localities almost simultaneously. For the same reason, it can scarcely be due to water, the affection prevailing where quite different supplies exist. It can scarcely be due to any particular article of diet for it prevails amongst breast-fed children, hand-fed children, agricultural labourers who scarcely touch milk, rich people and poor people, although certainly not equally severely. It is of course not improbable that the hypothetical micro-organism may be capable of causing some changes in the articles of food or drink consumed, and that this change may be more readily produced in certain kinds of foods and drinks than in others, either by favouring some injurious fermentative changes in them or possibly by exerting some changes in the alimentary secretions permitting some toxic influences during the then altered condition of the digestive secretions. The disease can scarcely be due to the much-abused sewers of towns, for it occurs in villages and lonely cottages where sewers do not exist.

It is quite evident that the disease is prevalent at those seasons when from the temperature conditions there is known to exist an increase in fermentative activity in lower vegetative micro-organisms; and it seems to me difficult to get away from the conviction that it is caused by the products of these active processes among organic impurities, wherever such exist in quantity and surroundings, as may be favourable and congenial for the cultivation of the particular micro-organism or micro-organisms concerned. That the particular germ or germs flourish mostly amongst dirty, closely crowded, and ill-ventilated habitations is simply what may be expected from our general knowledge of the behaviour of other specific fevers. But the problem at issue is that this "summer diarrhœa" affects a whole neighbourhood, or indeed a whole country, rich and poor, clean and dirty, in towns and villages, old and young, persons following different habits and modes of living and eating and drinking. All such classes are certainly not equally affected nor are all localities equally attacked, but that the epidemic is indefinitely widespread is manifestly evident. The only one condition essential on the face of it is a certain definite elevation of temperature. That the elevated temperature then is capable of producing a rapid increase in the particular germs or of endowing them with sudden virulently infective powers seems to me an unavoidable conclusion.

The difficulty still remains as to where the culpable micro-organisms live and flourish. They most probably live in the surroundings of the dwellings in which the sufferers reside, and inasmuch as the disease prevails in all manners and conditions of houses, houses with every sanitary advantage and the reverse (although, truly, not to the same extent), it seems almost irresistible to conclude that they must live in the soil which is beneath us all. That all soils are not equally favourable would appear evident from the different severity of the disease in different localities. Methods of sanitation

which prevent soil-contamination with organic refuse (unless such refuse be quickly brought under the healthful influence of natural vegetation) and sanitary regulations which prevent the heaping up and collection of dust and other filth, tend to hinder, there is little doubt, the prevalence of the disease. In the light of recent discoveries relating to malarial poisons it may be not improbable that winged insects may be instrumental in the conveyance of this particular disease. But that the root of the evil exists in the superficial subsoil when sufficiently heated appears to me to be yearly approaching to the position of definite certainty ever since the important and far-reaching observations of the late Dr. Edward Ballard upon the temperature of superficial subsoils at a "four-foot depth." In proof or otherwise of this view it would be highly interesting to ascertain whether any affection similar to our "summer diarrhœa" is recognised as occurring on board ships in tropical regions, where overcrowding is not unknown and absolute cleanliness cannot always be obtained.

Grantham.

THE CRAVING FOR STIMULANTS.[1]

BY HARRY CAMPBELL, M.D., B.S., F.R.C.P. LOND.,
PHYSICIAN TO THE NORTH-WEST LONDON HOSPITAL AND TO THE HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, WELBECK-STREET.

MANKIND all the world over show a liking for stimulants in one form or another and not infrequently this liking takes the form of a veritable craving. There is something almost weird in the fascination which stimulants have for mankind. Neither place, nor race, nor epoch makes any difference. From Noah who planted a vineyard, "drank of the wine and was drunk," down to the latest discovered African savages greedy for the trader's "fire-water," under torrid zones and amidst arctic snows, among black and brown, and yellow and white, alike barbarian and civilised—always there is the desire, amounting often to a craving, for stimulants in some form or another. Most often the desire is for alcohol, the most protean as well as the most potent of them all, but it is by no means confined to alcohol, as the most extraordinary increase in the consumption of tea and coffee in this country during recent years bears witness. No doubt their agreeable flavour has much to do with the popularity of these, but it is also attributable, and I believe to a much greater extent, to their reviving and stimulating properties. Many people, and especially women, will tell you that they cannot do without their morning cup of tea, and this not so much because they enjoy drinking it as because they are set up and revived by it.

Now this widespread desire for things stimulating cannot be a mere isolated phenomenon having no relation to other facts of physiology. We should expect it to stand in relation to some physiological principle, and I believe it does—that it is, in fact, the manifestation of a very widely operating physiological principle—namely, that *stimulant substances are normally present in the animal organism and exercise a beneficial influence on function.*

But first we must attach a definite meaning to the word "stimulant." A stimulant is something which, while it does not yield energy (or, if so, in altogether insignificant proportions, as in the case of alcohol), yet renders it available. In other words, it converts potential into actual energy. Let me illustrate this. When by the whip or the spur we urge on a flagging horse we are making use of a stimulus, and it is clear that we do not increase the stores of energy in the animal; we merely unlock supplies already existing. And in like manner when, by alcohol, digitalis, passive exercises, hot applications, or what not, we stimulate a failing heart, we do not infuse new power into that organ, but rather compel it to manifest energy which it already has.

Something more, however, is needed to complete our definition. A stimulant not only renders energy available, but it has also a very definite effect upon the mental individual—it tends to promote the feeling of well-being and to produce a general exaltation; to cause exhilaration or even mild intoxication. We may therefore define a stimulant as something which, while rendering stored-up energy available, tends at the same time to evoke a feeling of well-being, exhilaration, or even slight intoxication.

Stimulants may be broadly divided into two classes—those which act chemically through the blood, such as alcohol, and those which act in other ways. Among the latter we may mention the following: a sudden sharp sting upon the skin, as exemplified by the whip and spur, the application of ammonia to the nostrils, and the external application of heat or cold (thus, a warm poultice to the region of the heart stimulates, and cold air acting upon the skin and lungs may be very stimulating after a lengthy sojourn in a stuffy atmosphere). Again, exercise, such as dancing, may be highly stimulating, or the stimulating agent may operate through a mental channel: witness the effect of martial music—Napoleon helped his army across the Alps by means of the big drum—of good news, an exciting story, jovial company, and the return of a long-absent friend.

Exactly how stimulants, chemical or other, effect their result need not detain us. Doubtless they operate largely by acting on the heart and blood-vessels and accelerating the circulation, notably of the central nervous system; but many of them produce their effect chiefly by their direct action upon the nervous system itself. The thrill of elation excited by stirring music is primarily due to an excitation of the auditory expanse; and the stimulating effect of external cold is not merely due to its influence on the vaso-motor system, but to a direct action on the nervous system through the cutaneous nerves. Again, in the case of the chemical stimuli operating through the blood the influence of the nervous system is, I take it, mainly a direct one. Thus alcohol, like strychnine, has a selective action on the nervous system and plays upon it much in the same way as a player upon a musical instrument.

In this paper I of course deal only with the chemical stimulants. Among them it will be convenient to include, not only such well-recognised stimulants as alcohol, but all substances which tend to brace up the nervous system and to produce a feeling of well-being, even though they do not intoxicate, for it is practically impossible to draw a sharp dividing line between an intoxicating stimulant like alcohol and certain non-intoxicating alkaloids of which strychnine may be taken as an example. And the first proposition which I shall seek to establish is that the blood normally contains a number of substances of this description—that is to say, over and above the energy-yielding food-stuffs (albumins, fats, and saccharides), certain salts known to be essential to life, and the deleterious waste products, the blood contains a number of substances which exercise a beneficial influence on function, and my contention will be this, that except in the case of the "internal secretions" the part which these substances play in physiological processes has been overlooked. For the sake of convenient description I will provisionally term these substances "drug-substances."

And first as to their source: (1) they are taken in with the food; and (2) they are manufactured within the body.

I.—THE INGESTED DRUG-SUBSTANCES.

Food contains, in addition to nutrient materials and salines, a number of drug-substances. It is scarcely necessary to remind you of their abundance in vegetable food. I shall refer only to the stimulant substances contained in the food we consume. Many kinds of food contain them in abundance, but of all food meat is the most stimulating. If we cut beef into small pieces and allow it to infuse in water we dissolve out a number of soluble substances, and the infusion is frequently given to patients, under the name of beef-tea, in the belief that it is highly nutritious. As a matter of fact, however, beef-tea, even when made after the most approved fashion, is only of very moderate nutritional value. It acts essentially as a stimulant. It is clear, therefore, that when we eat meat we not only take nourishment and salines, but a considerable quantity of substances which yield no energy but which yet have a reviving, stimulating effect; and there can be little doubt that the popularity of meat as a food with us Westerns does not merely depend upon its being a highly concentrated food, but also upon its being charged with stimulating substances. It is said that a meat diet is more sustaining than a non-meat diet of equivalent nutritive value, and the statement is so far true that many people feel far more refreshed after a meal of which meat has formed a part than after one from which it has been excluded. Some have sought to explain this on the supposition that meat remains longer in the

[1] A paper read before the Society for the Study of Inebriety on Oct. 12th, 1899.

stomach than other foods and thus gives rise to a more lasting sense of repletion. But even granting this, it is certain that the reviving effect of meat is largely due to the stimulants which it contains, these being rapidly absorbed into the blood long before the albuminous part is digested. I find that no matter how much nourishment I take for lunch or how richly nitrogenous, I do not feel properly sustained and capable of close brain-work in the afternoon unless I take some meat. This is no doubt a confession of weakness. That it is so is shown by the fact that when in the country doing no brain-work I can quite comfortably forego the midday meal altogether, but under the more artificial conditions of town life, coupled with active mental work, some sort of stimulus seems needful to get the most out of the organism. This in the case of a more perfect organism would doubtless not be necessary. How stimulating meat is is shown by the fact that it may induce a veritable intoxication. Dr. Dundas Thompson once saw a tribe of Indians, whose customary fare was vegetarian, actually made drunk by a feast of meat. It was clear, he says, from their gibberings and gesticulations that they were in a state of intoxication.[2]

Again, the greater ferocity of the carnivora compared with the herbivora is closely connected with the fact that a meat diet is more stimulating than a vegetarian diet. Doubtless this difference in temperament is to some extent inborn, ferocity being helpful to the carnivora in their search after food; but that the meat diet promotes it is proved by our being able greatly to influence the temper of an animal—a dog, for instance—by regulating the quantity of meat entering into its dietary.

Meat, however, is not the only kind of food containing stimulants. Fish contains them, though in smaller quantities, and some vegetable foods are quite rich in them. I have seen children hilarious and excited—mildly intoxicated, in fact—after a purely vegetable meal. It is well known that maize, beans, and oats constitute a highly stimulating diet for horses. The stimulating value of these foods is about in the order given, maize being the most and oats the least stimulating, and it is an interesting and significant fact that if a horse be offered a handful of each of the three it will eat the maize first, the beans next, and the oats last of all. How stimulating maize is is shown by its exciting effect. If a horse is fed on it for some time and without sufficient exercise it will simply kick and rear in the stable. This stimulating effect is taken advantage of when it is required to work a horse under high pressure for a short period. Thus, if we wish to trot a horse at high speed for say 30 miles twice a week we should give it some good feeds of maize or beans beforehand; but if it were required to do a steady trot of, say, ten miles daily we should give oats preferentially.

The various articles of diet might, indeed, be classified according to the quantity of stimulants which they contain, and in judging of the value of a food we have to take into consideration not only how nutrient but how stimulating it is. We must ever bear in mind that the purpose of food is not merely to provide so much nutrient and saline material. Animals select food for its stimulating as well as for its nutritive properties. I have already remarked that it is so in the case of the horse, and I have observed the same with the tortoise which shows a predilection for such herbs as dandelions and poppies (opium in small quantities is stimulant).

II.—DRUG-SUBSTANCES MANUFACTURED WITHIN THE BODY.

We may refer these to two classes: (*a*) the internal secretions—i.e., substances of the nature of drugs especially manufactured by special tissues; and (*b*) substances formed as by-products in the process of digestion and in the vital processes of the tissues generally, such as the animal alkaloids (ptomaines and leucomaines), uric acid, and kreatin.

(*a*) *The internal secretions.*—These act much like drugs. Thus the thyroid secretion produces, when present in excessive amount, symptoms very much like those which may be produced by drugs—e.g., palpitation, tremor, and flushing. The adrenal secretion, again, is very drug-like in its action. The Pharmacopœia contains nothing so capable of constricting the arterioles and augmenting the blood-pressure.

(*b*) *Drug-substances formed as by-products during metabolism.*—We are apt to regard these substances as necessarily deleterious or at least negative—i.e., neither beneficial nor harmful—but the assumption does not seem to me warrantable. We hear a great deal about the toxic effects of certain compounds produced in the body, more especially about those formed during the process of digestion, but it must be remembered that many substances which are poisonous in large doses, such as strychnine and morphine, may in small doses be highly beneficial, and it is possible, indeed probable, that the admission of a small quantity of some of these so-called toxins into the circulation may likewise do good. These observations apply not only to the by-products of digestion but to a multitude of kindred substances produced during the metabolism of the tissues and hitherto looked upon as deleterious and requiring to be rapidly eliminated or neutralised. If this view be correct we must regard the body as carrying on a veritable drug manufacture by which is produced a number of substances acting much in the same way as the drugs which we administer. These bodies influence function in various and definite ways and it seems to me highly probable that the organism makes use of them to regulate and control it. Are we to suppose that the vaso-constrictor influence of the adrenal secretion is never utilised by the organism? And does it not seem much more probable that the bodily functions are to a large extent regulated by means of such chemical substances circulating in the blood? To me it seems probable that we have here a partial explanation of the therapeutic influence of drugs, that many disorders, especially the minor ones, are to be associated with some defect in these drug-substances. The instinct, so prevalent among animals, to seek out drug-containing herbs points in the same direction.

Now, among the drug-substances of the blood are many of which the action on the nervous system is stimulant and tonic. The organism, in fact, produces stimulants. I do not go so far as to say that it is provided with a distillery of its own, although as a matter of fact vinous fermentation may occur and alcohol be produced in the stomach; but I do say that a number of stimulating and tonic substances are produced, and seeing that others are ingested with the food we must conclude that they are normally present in the blood, and if normally then for a definite purpose. That purpose, I suggest, is to exercise a beneficent influence on function, and I believe them to be largely concerned in the genesis of the feeling of well-being.

THE PART PLAYED BY THE PHYSIOLOGICAL STIMULANTS AND NERVE TONICS IN THE GENESIS OF THE FEELING OF WELL-BEING.

The feeling of well-being or ill-being, I would first observe, is a purely mental phenomenon, and there is no necessary correspondence between it and the condition of the bodily health. The feeling of strength and vigour is not necessarily the outcome of actual strength any more than is the feeling of weakness the necessary outcome of actual weakness. A person may be weak to a degree and the sands of life almost run out, and yet feel overwhelmingly strong and exuberantly happy; and, on the other hand, when in sound and vigorous health he may feel exhausted and depressed.

Feelings rise into being in connexion with the nervous system. Whether a person feels well or ill depends upon the structure of his nervous system, and the way in which it is played upon, for, like a musical instrument, it may be made to give forth gay music or sad.

Sensory nerves are distributed to practically all parts of the body and terminate in the tissues as so-called end-organs—structures, more or less elaborate, adapted to respond to stimuli of various kinds, the retinæ to waves of light, the auditory expanse to sound-waves, and the various end-organs of the skin to the stimuli of heat, cold, pressure, and so forth. The end-organs situated in the deeper tissues are less elaborate and are stimulated for the most part by chemical substances dissolved in the fluids bathing them. These various end-organs constitute, so to speak, the keyboard of our sensorial instrument. This keyboard during conscious life is being continually played upon and yields a myriad-noted chord, or cœnæsthesia, which represents the sum total of our sensations at any one moment.

It is true that sensations may be produced by stimulating nerve-fibres in their course—e.g., the optic nerve—or even the sensorial centres themselves—e.g., the cortical visual centre—just as sound may be got from an organ by manipulating the connexions (equivalent to nerve-fibres) between the keyboard and the pipes, or even the pipes (equivalent to cortical centres) themselves, yet in order to get proper music the playing must be done on the keyboard. Similarly,

[2] A Treatise on Food and Dietetics. By F. W. Pavy, M.D. Lond., F.R.S. Second edition, p. 492.

in order to get the complete and perfect sensorial chords from our sensorial instrument it is necessary that it should be struck through the sensory end-organs constituting its key-board. This is especially the case with the organs of special sense, as those of sight and hearing; where the stimulus consists of chemical substances dissolved in the fluids of the body it is probably not so necessary that it should act through an end-organ, and it seems more likely from what we know of the selective action of drugs that it may act upon the sensory fibres or centres.

As the result of the operation, then, of stimuli upon the sensorial nervous system—chiefly upon the end-organs but in the case of chemical stimuli circulating in the body-fluids upon the sensory fibres and centres as well—a chord of sensation is produced. This, the cœnæsthesia, or sum-total of sensations felt at any one moment, is practically the sense of being alive. If we eliminate the special-sense sensations, especially the more intellectual—viz., sight, hearing, touch (of fingers)—we have the sense of mere organic existence. This consists essentially of a chord of organic and cutaneous sensations, and it is upon it that the sense of well-being or ill-being mainly depends. If a harmonious chord is struck, there is a sense of well-being of which there may be various degrees, from a feeling of comfort and content to one of exuberant strength with its emotional accompaniment of overflowing spirits. If a discord is struck, there is a sense of ill-feeling, with its emotional accompaniment of depression, and in this case also there are many shades.

It will be observed that I attach more importance in the genesis of the feelings to the way in which the nerve-instrument is played upon than to the nature of the instrument itself. Doubtless the organisation of the nervous system and the state of its nutrition to some extent determine what kind of music it shall give forth—i.e., there may be some sensorial instruments prone by their organisation to yield gay music and others adapted rather for melancholy tunes; but whether the music shall be sad or gay depends, in my opinion, upon the way in which the instrument is played rather than upon the nature of the instrument. Even though one may be inclined to attribute the native or root temperament to congenital peculiarity in sensorial organisation, we can scarcely doubt that the varying modifications of feeling that take place from day to day and from hour to hour depend upon alterations in the playing of it—i.e., in stimuli—rather than upon alterations in its structure. Especially do these remarks apply to sudden and abrupt alterations in the feelings.

These stimuli are, as far as concerns our present inquiry, essentially chemical. By means of chemical substances present in the body fluids the sensory system of the skin and deeper structures, but especially of the viscera, is played upon, and there ensues a feeling of well-being, ill-being, or apathy, according to the nature of the chemical substances present. These we may broadly divide into the beneficial and the injurious. The former, consisting of stimulating and tonic substances, operate in the direction of pleasure and tend to call forth a sense of well-being with an emotional accompaniment of happiness and elation; the latter operate in the direction of pain and tend to induce a feeling of ill-being with its painful emotional accompaniments of gloom, irritability, or what not. They each play upon the nerve-instrument, and according to the preponderance of the one or the other we have harmony or discord, while if they neutralise one another there is simply apathy or a negative feeling. Chemical stimuli of some sort I believe to be necessary to a definite feeling of well-being. In their absence I imagine there would simply be indifference.

The position, then, which I am inclined to take up is this: assuming the nervous system to be structurally normal and well nourished, and the blood to contain the necessary nutrient substances and salines, and to be free from the drug—substances which act as stimuli, the individual will feel neither well nor ill, neither elated nor depressed—he will be in a neutral state. In order to get either the one or the other the sensory nervous system must be stimulated by chemical stimuli. The mere nutritive interchange between the nervous elements and environing plasma does not suffice.

I am not, be it noticed, contending that the chemical are the sole stimuli engaged in the genesis of well-feeling. As I have already pointed out there are several which act in other ways than by chemical irritation. Thus music and good company may stimulate and so promote well-feeling and happiness. But there are occasions when no stimulant of this kind will suffice. This is certainly the case when the blood is surcharged with depressing toxins; and I believe we may go further and assert that not the most exhilarating music or most jovial company can make a man feel downright well and buoyant unless the necessary drug-substances are present in the body fluids.

EVIDENCE IN FAVOUR OF THE VIEW THAT THE FEELING OF WELL-BEING DEPENDS UPON THE PRESENCE IN THE BLOOD OF STIMULATING AND TOXIC SUBSTANCES.

It is generally acknowledged that a feeling of malaise accompanied by mental depression may result from the presence of poisonous substances in the blood; the facts in favour of this conclusion are overwhelming, and I will merely refer to the effects of a blue pill and black draught. But the necessary dependence of well-feeling upon chemical stimuli operating in the opposite direction has never been asserted.

That stimulants such as alcohol and tea are capable of generating the feeling of well-being is well recognised, but what evidence have we that such substances are normally present in the body? First, there is the fact, already insisted on, that stimulants are necessarily ingested with the food. Secondly, there is the evidence that the body generates stimulants and allied substances, and that I may not be charged with asserting without giving proof I will now summarise this evidence. The chemical substances produced in the body can, many of them, be isolated and their physiological effects experimentally investigated, and some of them can be shown to act as stimulants. Even uric acid, which is supposed by some to be purely toxic, is found when swallowed to have a stimulating effect. But the most interesting evidence in favour of the view for which I am contending is afforded by the observation of disease. It sometimes happens that a nerve-storm—e.g., megrim—is preceded by a period of exceptional well-feeling and unusual good spirits. This has by some been attributed to a temporary absence from the blood of some toxin. It seems unlikely, however, that such absence should cause a feeling of preternatural elation; it might conceivably conduce to a feeling of moderate well-being, but surely not to a supernormal degree of it. A much more likely explanation is that it is due to the presence in the blood of some stimulant or stimulants—possibly some toxin which when present in moderate quantities stimulates but in larger quantities depresses and induces the phenomena of the attack; or we may regard the latter as due to "reaction." This view is in harmony with our knowledge of such a drug as opium. There is first, especially when the drug is given in moderate doses, a stage of mental exaltation, and this is apt to be followed, if the dose be large, by a period of reaction attended by headache and other unpleasant symptoms.

An unwonted feeling of *bien-être* may attend other diseases. General paralysis of the insane affords a remarkable example. In typical instances of this disease the patient feels exuberantly well and happy. This was for long a puzzle to me. How comes it, I asked myself, that when the mind-centres are gravely disorganised the patient feels so strong and happy? The answer came from the consideration of the analogy—long since pointed out by Sir Samuel Wilks—between the symptoms of this disease and those of alcoholic intoxication. This analogy seems to me to render it highly probable that the mental exaltation of general paralysis is a species of intoxication, and that a poison, or group of poisons, somewhat similar to alcohol is produced in this disease.

PRACTICAL DEDUCTIONS.

My general thesis that the blood normally contains stimulants, that these stimulants exercise a favouring influence on function, and conduce to, and may even be a necessary factor in the production of, the feeling of well-being, explains the widespread liking in man and beast for stimulating substances. This liking, amounting often to a craving, is the expression of a great physiological principle. When there is perfect health, when the blood is well provided with its proper stimulants and not overcharged with depressants, there is no craving for extraneous stimulants, as alcohol, tea, or coffee. But when it is defective in the one or surcharged with the other, then is felt the desire for the glass of wine or the cup of tea. In order to obviate this desire we should seek to keep the body at the highest level of health. The more perfect the health the more perfect will be the composition of the blood, both in respect to

physiological stimulants and deleterious toxins. A blood properly constituted in these and other respects will exercise a gentle stimulant action on the nervous system and induce a condition of mild physiological intoxication which expresses itself in a feeling of well-being and happiness—a condition which cannot be bettered.

Wimpole-street, W.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

LONDON HOSPITAL.

A SECOND CASE IN WHICH LIGATURE OF THE UTERINE ARTERIES WAS FOLLOWED BY ARREST OF EXCESSIVE HÆMORRHAGE AND SHRINKING OF A FIBROID

(Under the care of Dr. G. E HERMAN.)

WHEN recording Dr. Herman's first case of ligature of the uterine arteries for menorrhagia dependent on a fibroid we pointed out that theoretical considerations might have rendered it improbable that benefit would result from such a procedure, for the anastomoses between the uterine and ovarian arteries are numerous; but the success in that case was very striking. In Dr. Herman's present case the result is equally good, and the history makes it certain that the cessation of the hæmorrhage was directly dependent on the operation. As compared with other operative procedures the danger in this operation and the mutilation are slight. For the notes of the case we are indebted to Dr. F. T. Waldron, resident accoucheur.

A patient, aged 34 years, consulted Dr. Herman on March 22nd, 1898. Her complaint was of pain in the back, which she had had for three years, and of excessive and too frequent menstrual hæmorrhage which she had had still longer. She was anæmic and had a hard enlargement of the uterus reaching three-fourths of the distance from the pubes to the umbilicus. A course of ergot was advised and she took this drug for six months with the result that the pain and hæmorrhage were lessened, although the bleeding still was greater than it had been when she was in health, and she was still anæmic, and therefore wished for more effective treatment.

On Oct. 26th the patient was admitted into the London Hospital. She was contemplating marriage and therefore she did not wish a mutilating operation if it could be avoided. It was accordingly thought worth while to try the effect of ligature of the uterine arteries. Dr. Herman performed this operation on Oct. 29th. A transverse incision was made in the anterior vaginal fornix, the bladder and ureters were separated by the fingers from the uterus, and then a ligature was passed round each uterine artery from above downwards. The tumour at this time reached four and a half inches above the pubes. On April 18th, 1899, menstruation since the operation had been regular and very scanty. The tumour was smaller, its nodular character was more distinct, and it reached only three and a half inches above the pubes. The patient had no pain and said that she had never felt better in her life. On Oct. 3rd the patient had been married for two months. She had menstruated twice since marriage, the quantity being scanty. She felt perfectly well.

Remarks by Dr. HERMAN.—In the "Mirror of Hospital Practice" in THE LANCET of Oct. 22nd, 1898, p. 1058 a case is published in which I treated a bleeding fibroid in a patient who objected to a radical operation by ligature of the uterine arteries, with the result of stopping excessive hæmorrhage and procuring shrinking of the tumour. This success induced me to ligature the arteries in this other case in similar circumstances. The result was equally satisfactory. As this operation is practically free from danger and does not mutilate the patient it is one for which a field exists. Two cases are not enough to establish the value of an operation; but the similarity of the results obtained in these two cases goes some way in that direction.

CUMBERLAND INFIRMARY.

A CASE OF PERFORATED GASTRIC ULCER AND A CASE OF STRANGULATED HERNIA.

(Under the care of Dr. R. MACLAREN.)

IN the former of the two cases recorded below the point of greatest interest was undoubtedly the long period, 48 hours, which elapsed between the perforation of the stomach wall and the operation, and yet recovery followed. This result is to be attributed chiefly to the fact that the stomach was practically empty the whole time; and so hardly any real extravasation occurred. The second case is remarkable for the early age of the patient; and it also demonstrates the tendency which an undescended testis has to cause a hernia. In such cases removal of the displaced organ is generally advisable as a part of the radical cure of the hernia. For the notes of the cases we are indebted to Dr. L. M. Cairns, house surgeon.

CASE 1. *Perforated gastric ulcer; operation; recovery.*—A woman, aged 20 years, was admitted into the Cumberland Infirmary on the night of April 8th, 1899. The history of the case was that she had suffered more or less from "indigestion" for about a year, but had never vomited and had never suffered any real inconvenience until April 4th when she suddenly felt sick and vomited a quantity of greenish material. She took a dose of salts on the same night and the bowels acted on the next day; there was nothing abnormal about the motions and she felt practically all right again until the night of the 6th when she was suddenly seized with violent abdominal pain (chiefly in the left hypochondriac region) about 11 P.M. while in bed. She had had a meal of meat and potatoes in the middle of the day but from the onset of the pain until the time of admission she had nothing but occasional sips of barley-water. The pain continued during the night of the 6th with occasional slight attacks of vomiting, but the vomited matter was always greenish—never brown or black. On the 7th she took another dose of salts and the bowels again acted, but the pain and occasional vomiting continued. On the evening of the 8th Dr. Hair was called in, diagnosed perforation of the stomach, and advised her immediate removal to hospital with a view to operation.

On admission the patient looked healthy and well nourished but the face was slightly flushed and she wore an anxious expression; the teeth were very bad. The temperature was 101·8° F.; the pulse was 120, small and hard; the respirations were 36 per minute and the breathing was almost entirely thoracic. She was most comfortable lying on the right side with the knees drawn up. The abdomen was slightly distended and scarcely moved at all during respiration. On palpation the abdominal muscles were very rigid and there was generally diffused tenderness, aggravated by every kind of movement and straining and not relieved by pressure. On percussion both flanks were slightly dull, but the abdomen was otherwise resonant all over and the area of hepatic dulness was somewhat diminished.

Dr. Maclaren was sent for and decided on immediate operation. A curved incision, about four inches long, was made parallel to the left costal margin and about a finger's breadth below it. The anterior wall of the stomach presented immediately on opening the peritoneum, but no perforation could be found in it and it was only after prolonged and difficult search that the perforation was located (chiefly by escape of gas) high up on the posterior wall near the fundus. The perforation was of about the size of a goose-quill and passed obliquely through the coats of the stomach, while surrounding it and lining almost the whole of the lesser sac was a layer of lymph about one-sixteenth of an inch thick. As it was practically impossible to reach it through the foramen of Winslow the incision was extended upwards and inwards towards the middle line (splitting the rectus) and also, to a lesser extent, outwards towards the flank. The stomach was then turned upwards and the posterior layer of the gastro-colic omentum was freely divided, but even then it was only with the greatest difficulty that Dr. Maclaren was able to stitch up the perforation by means of a fine curved needle held in a pair of long artery forceps and guided chiefly by touch. When this had been done the peritoneal cavity was freely and systematically irrigated with several quarts of boiled water, special attention being paid to the under surface of the liver, the lumbar and pelvic regions, and the folds of the

mesentery. By this means the extravasated gastric contents, together with the flaky lymph previously mentioned, were entirely removed and the peritoneum was thoroughly cleansed. As much as possible of the fluid was removed by sterilised gauze tampons on long sponge forceps and the incision was then stitched up, a large glass drainage-tube being inserted at its outer end.

The patient bore the operation remarkably well and there was comparatively little shock. She passed a comfortable night, had very little pain or sickness, and on the next morning her temperature had fallen to 99·6°, the pulse was 116, and the general condition was very good. For the first 48 hours after the operation she was fed entirely by the rectum; she was then allowed sips of water and a little ice, and by the end of the week she was taking milk freely in small quantities. The question of feeding never gave rise to the slightest trouble and at no time was there any sickness after the effects of the chloroform had passed off; from a diet of milk and beef-tea she passed gradually to one of Benger's food, custard, and eggs, and was taking solid food at the end of a month from the operation. For the first few days the wound was dressed frequently; on the fourth day the tube was removed; and all the stitches were out by the tenth day. From this point recovery was practically uninterrupted and before the end of the month she was strong enough to have some of her teeth extracted under chloroform, while within six weeks of the operation she was able to get out of bed and lie on a couch for a few hours each day.

CASE 2. *Undescended testis; strangulated hernia; operation; recovery.*—A male child, aged 24 days, was admitted to the Cumberland Infirmary on the afternoon of Nov. 15th, 1898. The history was that he had been born with a partially descended testicle on the left side which formed a small rounded swelling in the course of the inguinal canal. This gave rise to no trouble until Nov. 14th, the day before admission, when the child became very fretful, vomited repeatedly, and the swelling was seen to have increased in size. The vomited matter consisted chiefly of curdled milk and was never fæcal in character, either then or afterwards. The bowels were moved very slightly in the evening but not during the night or the following day, and as the vomiting continued Dr. Logan of Ecclefechan was called in. He diagnosed strangulated hernia following on undescended testicle and advised immediate removal to hospital with a view to operation. On admission the temperature was 98° F., the pulse was 140, and the respirations were 48 per minute. A swelling of about the size of a walnut was visible in the course of the left inguinal canal and the skin over it was rather red and inflamed; it was very tense and neither impulse nor fluctuation could be made out. The bowels had not acted since the occasion already mentioned and an enema failed to act, but there was no sickness after admission.

Dr. Maclaren decided on immediate operation and proceeded to cut down on the swelling by an oblique incision in the line of the inguinal canal. After dividing the skin and superficial fascia the swelling, covered by peritoneum, was readily exposed, and on opening the peritoneal covering the diagnosis was found to be correct; the testicle was lying in the inguinal canal, while a small knuckle of bowel had entered the tubular prolongation of peritoneum investing the testicle and had become nipped by the proximal end of this tube. After ligaturing the cord the testicle was removed, the constricting band was carefully divided on the finger by a hernia knife, the bowel was returned, and the neck of the sac was securely ligatured. The margins of the incision were then brought together by deep and superficial sutures of fishing-gut and silk respectively and the child was put back to bed as quickly as possible.

There was no sickness after the operation and the bowels were moved naturally on the same night. Next day the temperature rose to 102·5° but gradually fell again and remained normal after the third day. The deep stitches were removed on the second day, the superficial stitches on the seventh, and the infant was discharged well on Nov. 29th, a fortnight after the operation.

Remarks by Dr. CAIRNS.—Case 1 naturally suggests a few points worthy of consideration. 1. The importance of the food taken before and after perforation. In this case perforation evidently occurred on the night of April 6th and although a full meal of meat and potatoes was partaken of about 10 hours previously the patient had nothing but sips of barley-water from the time of the perforation until the operation, almost exactly 48 hours afterwards. As no particles of solid food were found in the peritoneal cavity this fact obviously had an important bearing on the successful result of the case. 2. The most suitable incision. In place of the usual incision from the xiphoid to the umbilicus, a curved one was employed in this instance, running parallel to, and just below, the left costal margin. The immediate and after results were entirely satisfactory and showed that the lateral incision is superior to the central one in at least three respects—viz., the ready access which it affords to all parts of the stomach, the ease with which it can be extended (the original incision ultimately reached a total length of nine inches), and the facility it gives for cleansing the peritoneal sac afterwards. 3. The localisation of adhesions. These were entirely limited to the lesser sac in this case and the effused lymph was most abundant in the immediate neighbourhood of the perforation, affording a valuable indication as to its whereabouts. The lymph could be peeled off in large flakes and part of it was removed in this way. 4. The importance of thorough cleansing of the peritoneal sac. After suturing the perforation this is certainly the most important point in the operation, and it is generally recognised that thorough and systematic irrigation affords the best chance of a successful result. Plain boiled water was used in this instance and the various parts of the peritoneal cavity already mentioned were easily reached by means of a long glass vaginal nozzle attached to the tube of the irrigator. Each part was persistently irrigated until the fluid returned perfectly clear and was then dried as thoroughly as possible by means of sterilised gauze. 5. The question of drainage. Owing to the site of the perforation in this case it is doubtful whether a drainage-tube did any good, and as there was practically no discharge it was removed on the fourth day. Further, the necessity for drainage was diminished by the absence of general peritonitis and by the use of a non-irritating fluid for irrigating purposes.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

President's Address.—The Congo Sleeping Sickness: its Etiology and Histology.—Specimens of Bubonic Plague, of Pyonephrosis, and of Aortic Aneurysm.

THE first meeting of this society was held on Oct. 17th, Mr. WATSON CHEYNE, the President, being in the chair.

The PRESIDENT, in his opening address, after thanking the members for the honour of election, sketched the history of the Pathological Society which had been founded just 53 years. Founded at a time when speculation was rife the rules had been framed to ensure the adherence to the bare facts of morbid anatomy. Latterly, since pathology had opened out in new directions, he thought that it was inadvisable to adhere too rigidly to that rule. In 1893 the rule relating to this question had been modified, but he thought the society was still too backward and it resulted in a breaking off of the members. A certain amount of specialism was inevitable in view of the vast accumulation of knowledge, but too much separation was unnecessary and undesirable. All observers, for instance, must study morbid anatomy in order to recognise the several diseases met with, whether in animals or in men. It was his desire that the society should be the great centre for all kinds of pathology. There were four directions in which the council desired that reforms should take effect so as to accomplish that object and to fulfil the functions both of research and education to the profession at large. First, that the alteration in the rule referred to should become more widely known and that the society was thus opened to all pathology of whatsoever kind, bacteriology, morbid anatomy, experimental pathology, and pathological chemistry. Secondly, to encourage the study of special branches and yet avoid the mixing of papers read before the society, the subjects would be grouped so that on one evening one subject would have preference and on another evening another. Thirdly, since animals and experiments requiring elaborate apparatus could not be shown in their present domicile arrangements had been made for four meetings to take place in various laboratories.

Fourthly, the delay in the publication of important researches could be obviated by the leave which had now been granted to writers to publish their papers in the *Journal of Pathology*.

Dr. PATRICK MANSON read a paper on the Congo Sleeping Sickness and its Etiology. His paper, he said, was only an introduction to the important communication by Dr. Mott on the Morbid Anatomy of the Disease. The geographical distribution of the malady was peculiar. So far as was known it was strictly limited to the tropical part of the West Coast of Africa. Even here it was unevenly distributed, being endemic in certain villages, absent in others; and it was said to disappear from certain places and to appear in others. The disease had a most remarkable latency, amounting, the negroes said, to seven years. It was within Dr. Manson's knowledge that a Congo boy who left the Congo three years previously had developed the sickness in England. The symptoms of the disease extended over a considerable period and presented roughly three stages. The onset was very insidious and only those accustomed to the disease could recognise it in the gradually increasing mental languor and muscular weakness, tendency to sleep, taciturnity of expression, and slowness of movement. The temperature was sub-normal, with occasional feverishness. The second period was one of great drowsiness and prostration. The patients would reply and eat when roused but slept almost continuously if left alone. In the third stage bedsores and convulsions supervened. The lymphatic glands presented chronic adenitis; sometimes a papular eruption attended with great itching appeared. Death might occur from starvation and exhaustion, bedsores, hyperpyrexia, convulsions, or some intercurrent disease. The mortality of the disease was very great, a fatal issue being sure, although they might rally for a time. The limited geographical area suggested a micro-organism introduced by or from some animal. But the results of researches hitherto had been unsatisfactory. Dr. Manson referred to two cases. One of the patients, aged 20 years, in whom the disease began in October, 1897, died suddenly in February, 1899, from hyperpyrexia, and filaria perstans was found in the mesentery which corresponded with those of Demerara. The other, in whom the disease began in May, 1898, died from exhaustion with bedsores and convulsions, and an embryo filaria was found in his blood but not the parental worms. Turning to the etiology the question of race, he thought, was really only one of exposure and opportunity. Food had been suggested on the analogy of ergotism, pellagra, &c., but this did not tally with the long incubation period of seven years. Intemperance and sexual excess were negatived by its occurrence in children; all ages and sexes were attacked. Some observers had professed to find bacteria,[1] but against its bacterial origin were the limited geographical range, long incubation, and non-communicability outside the endemic area. On the other hand, an entozoal origin would harmonise with the prolonged latency and with the non-communicability, for it would imply an extra-corporeal life for the germ in an organism with a correspondingly limited geographical range. The filaria perstans conformed to those conditions and had been found in the only three cases adequately studied in England. A difficulty occurred in the frequency with which this filaria was found in the blood of the natives in the endemic regions and in the Buck Indians of Demerara. If, therefore, this parasite was the cause of the disease it depended probably on some morbid condition or anomaly of the parasite. Dr. Manson's paper was illustrated by lantern slides of different forms of filaria, showing the differences in the tail and the absence of the sheath in filaria perstans.

Dr. MOTT related the results of the investigation of the central nervous system in the two cases of Congo Sickness to which Dr. Manson had referred; he also showed a number of lantern slides and microscopical specimens. The brain and spinal cord, pituitary body, spinal ganglia, and many other organs and tissues had been examined. To the naked eye the tissues in Case 1 presented but little change beyond some slight thickening of the pia arachnoid. The brain weighed 54 ounces. In Case 2—the younger patient—the dura mater was found to be adherent to the skull cap. A considerable quantity of cerebro-spinal fluid existed. The pia-arachnoid was somewhat thickened and opaque over the convolutions. The base of the brain likewise showed thickening and opacities of the pia arachnoid. The weight of the brain was 36 ounces. All the nervous tissues were removed soon after death so as to avoid post-mortem fallacies. Portions of different parts of the hemispheres, cerebellum, pons, medulla, and cord, also the spinal ganglia, were stained by the Nissl method, Marchi and Marchi-Pal methods, after suitable hardening and fixation. The microscopical examination of these sections exhibited in both cases similar conditions—namely, a lepto-meningitis and encephalomyelitis. Throughout the whole central nervous system, but especially from the medulla and base of the brain, sections showed that all the perivascular lymphatics were distended with mononuclear leucocytes. The left cerebral hemisphere in Case 2 showed this condition in an especially marked manner, very probably accounting for the right-sided fits which this patient suffered from towards the end of life. Sections were also stained by the Gram, Pfeiffer, and other methods for the detection of microbes, but with negative results, thus agreeing with the negative evidence obtained by Dr. Bulloch, who examined the blood and lymphatic glands removed from Case 2 during life. Some of the cerebro-spinal fluid removed from Case 2 after death yielded by cultures various organisms, but this evidence was of no value because rigid precautions were not taken in obtaining the fluid; moreover, a large bed-sore had existed over the sacrum. All the cells and fibres of the central nervous system had been thoroughly examined and they showed changes which were certainly due to hyperpyrexia in Case 1, but in both cases the changes were in keeping with the inflammatory view previously expressed. In Case 2 there was slight sclerosis of the crossed pyramidal tract more marked on the right side. The central canal was filled with proliferated glia tissue. Turning to the question whether the changes referred to could account for the symptoms during life, the changes in the left cerebral hemisphere of Case 2, together with the evidence of degeneration in the opposite crossed pyramidal tracts, agreed with the convulsions of the right side observed during life. The symptoms which were, however, present in both patients and characteristic of the disease—viz., progressive drowsiness and lethargy, which eventually led to most of the lives of the patients being passed in sleep, and the progressive weakness in body and mind without any distinct paralysis or mental disability—could best be accounted for by supposing that the metabolism or functional activity of the neurons as a whole was affected injuriously, either by some toxic product circulating in the blood or existing in the cerebro-spinal fluid, and that this toxic agent, whatever it might be, had occasioned an enormous proliferation of mononuclear leucocytes beneath and in the pia-arachnoid membrane and in the perivascular lymphatics. It might, moreover, be considered that the functions of the nervous system were affected by an interference with their nutrient supply owing to the perivascular lymphatics being filled with leucocytes and thus interfering with the circulation of the lymph of the brain. The liver, kidneys, lungs, pituitary body, spleen, lymphatic glands, and duodenum were also examined, but the results were for the most part and with the exception of the duodenum and lymphatic glands negative. The lymphatic glands were greatly enlarged owing to the large increase of lymphocytes. Sections of the duodenum showed a large number of lymphocytes and a proliferation of the same cells in the lymphoid nodules. It was a pity, seeing that some French authorities[2] had considered this disease to be due to the pneumococcus, that lumbar puncture was not performed during life and the cerebro-spinal fluid examined for organisms. The negative evidence as to the disease being due to a micro-organism was inconclusive, but it must be remembered that in rabies no micro-organism had been found. The facts mentioned might perhaps help towards elucidating the pathology of the disease. They were also of interest in contrasting this affection with general paralysis which by many authorities was still considered to be a primary meningo-encephalitis, yet although the appearances of inflammation in this disease were as intense and certainly more widespread than any case of general paralysis which Dr. Mott had seen, yet the cellular changes were, in comparison with general paralysis, slight. That was an argument in favour of the view that progressive paralysis of the insane was a primary disease of the neuron

[1] Gagigal and Leplerre: Comptes Rendus de la Société de Biologie, January, 1898.

[2] Annales de l'Institut Pasteur, March, 1899. Rôle du Pneumocoque dans la Pathologie et dans la Pathogénie de la Maladie du Sommeil, par le Dr. E. Marchand.

with secondary inflammatory changes. Regis and Gaide[2] had published a case of sleeping sickness observed in the region of Timbuctoo which they considered to be a diffuse meningo-encephalitis of infective origin.—Dr. WILLIAM HUNTER, in the discussion which followed, hardly thought the hyperpyrexia in one of the cases recorded could be due to the pulmonary abscesses since the largest of them was no larger than a filbert.—Dr. HARFORD-BATTERSBY, from what he had seen of sleeping sickness, remarked that the enlargement of the lymphatic glands was of regular occurrence and by the negroes was regarded as in some way causing the disease, for which reason some kind of native operation was carried out upon them. He thought that the successful "cures" after such procedures rested upon the removal of glands enlarged from other causes. He had never heard of Europeans being attacked. The febrile attacks accompanying the disease were not malarial, as they were not benefited by quinine.—Dr. MANSON, in replying to Dr. Hunter's question, explained that one of the abscesses in the lungs contained a dead parent worm; the other abscesses had probably had a similar origin.

Dr. F. W. ANDREWES and Dr. H. MORLEY FLETCHER exhibited a series of 15 museum specimens of Organs from cases of Human Plague. Many of these showed the hæmorrhages which play such an important part in the disease and having been prepared by the formalin method the colour was preserved with much accuracy.

Mr. S. G. SHATTOCK exhibited Cultures of Bacillus Coli, Bacillus Typhosus, &c., rendered Permanent by means of Formalin Vapour.

Dr. F. TOOGOOD exhibited specimens of: (1) Pyonephrosis of the Kidney; and (2) Aneurysm of the Aorta, rupturing into the Œsophagus. The patient was a woman in whom hardly any evidences of the disease were apparent until suddenly she brought up a quantity of blood which had found its way through from the aneurysmal sac.

CLINICAL SOCIETY OF LONDON.

Acute Streptococcal Meningitis Supervening on Chronic Nephritis.—Aneurysm of the Aorta.—Obscure Case of Anæmia with Convulications.

THE first meeting of the present session was held on Oct. 13th, when Sir RICHARD DOUGLAS POWELL, Bart., took the chair as President for the first time. He thanked the society for electing him to the chair and referred to the excellent work done by the society during the past year, but he thought it would be better to defer any general remarks he had to make to a future occasion. He presented the new volume of the Transactions to the society, remarking on the value of such clinical records, and he expressed the hope that the good work of the society would be continued in the future as in the past.

Dr. ROLLESTON described a case of Acute Streptococcal Meningitis Supervening in the Course of Chronic Parenchymatous Nephritis occurring in a man, aged 22 years, admitted to hospital on the eighth day of his illness with a temperature of 103° F. but without any definite evidence as to the nature of his illness, which had begun with tonsillitis. The insidious onset of the illness suggested typhoid fever, but Widal's reaction gave absolutely no result. He was quite free from headache on admission, but a day or two later he had two fits, passed into a condition of cerebral irritation, and died comatose. The necropsy showed extensive purulent meningitis, due to streptococcal infection, and an acute tubal nephritis on the top of chronic parenchymatous nephritis (contracting white kidney). No streptococci were visible in microscopic sections of the kidney, so the acute renal changes might have been toxic; but inasmuch as cultures were not made from the spleen or heart's blood it could not be certainly said that the streptococcal infection was confined to the meninges of the brain. Flexner had shown the great frequency of terminal infections on chronic renal and cardiac disease and his experiments pointed to this being dependent on a diminution in the bactericidal power of the blood in renal diseases. Terminal infections in renal disease were known to be common in the lungs, pleura, heart, and pericardium, but not in the meninges. In Flexner's statistical study of the terminal infections in chronic heart or kidney disease the few cases of meningitis that occurred were almost always due to pneumococci, the lungs forming the source of infection. This case was remarkable for the unusual site of the terminal infection and for the latency of the meningitis. Cerebral symptoms only supervened two days before death. It seemed probable that the tonsils were the portal of introduction of the infection.—In reply to the PRESIDENT Dr. ROLLESTON said he regarded the epileptic fits as due to the meningitis.—Dr. F. J. SMITH commented on the rarity of the case. Although pericarditis and pleurisy were common enough after chronic nephritis he could not remember among the records at the London Hospital to have met with a case of purulent meningitis. Referring to the question of the introduction of infection through the throat he thought that that also was very unusual, though why it was unusual it was hard to say because tuberculous meningitis could be traced to infection in that way. He referred to a case of tuberculous meningitis in which no tubercle was discoverable in any other part of the body besides the meninges; the illness had commenced with a sore-throat and this was probably the portal of infection. If, therefore, tuberculous meningitis could be traced to infection by this means, why not acute streptococcal meningitis?

Dr. T. CHURTON (Leeds) related a case of Aneurysm of the First Part of the Arch of the Aorta projecting into the Right Axilla in a man, aged 53 years, a boatman, who was admitted to hospital on June 25th, 1898, with a painful swelling on the right side of the chest, extending from the mid-axillary line to the nipple line, of half the size of a cocoanut, the seat of well-marked expansile pulsation. It had been first noticed two years before, but the patient only left off work three months ago on account of pain in the right arm. He had been confined to bed for a fortnight; he was feeble and had anginal attacks. An aortic regurgitant murmur was heard over the fourth costal cartilage. Syphilis was denied. Aneurysm was diagnosed. It had been thought by a surgeon to be of axillary origin, but a resident believed it to be aortic, the diagnosis turning upon the effect of pressure upon the subclavian artery. On palpation, however, a slight heaving could be felt from the tumour to the sternum, and this area was dull. The heart's impulse was felt in the sixth space, one and three-quarter inches external to the left nipple line. The bruit was fine and whiffing, not suggesting a large regurgitation. No other marked pressure signs were present. The patient died on July 5th with symptoms of internal hæmorrhage. At the necropsy the heart was found to be enlarged, chiefly the left ventricle; the mitral valve was normal; the aortic cusps were rather thick, but presented no marked deformity. The cavity was not much enlarged, but the muscle was thick. The first inch of the aorta was fairly good, but beyond it was greatly dilated, even within the pericardium. Beyond the pericardial attachment the first part bulged outwards and downwards. Just outside the pericardium on its outer aspect was a long narrow slit leading into a sac measuring 5½ × 4½ × 3½ inches and having a thick lining of solid clot. At the upper and inner part of the sac was a small opening three-quarters of an inch in length, from which blood had escaped into the pleura at the upper and posterior part of the thorax. The third and fourth ribs appeared to have been broken in the anterior axillary region and the remains of the broken and separated parts were apparently contained in the wall of the sac. The ribs were intact as to their outer surfaces for two or three inches. During life it was thought that the aneurysm separated the upper and middle lobes of the lung, but it lay wholly in front of the lung, the inner face of the upper lobe being closely adherent thereto. Dr. Churton adverted to the unusual situation of the projection of the aneurysm into the right axilla, of which he had been unable to find another example.—Dr. F. J. SMITH wished to express considerable doubt as to whether a slight murmur indicated a small amount of regurgitation in aortic disease. It did not always follow that a loud bruit indicated much regurgitation, and he had come to the conclusion that the only way to gauge the amount of regurgitation was not by the murmur but by the concurrent clinical symptoms. He wished to know what was the weight of the heart in this case. He considered that an aneurysm of the arch had no effect in producing hypertrophy of the heart provided the valves themselves were unaffected. The position in which an aneurysm projected was, he thought, merely an anatomical accident.—Dr. CHAPMAN expressed his adherence to the teaching of Gross as regards aortic aneurysm combined with aortic valvular mischief—namely, if the second sound exceeded the first in length it indicated extensive regurgitation.—Dr. ROLLESTON, speaking as to the significance of murmurs, thought they

[2] Presse Médicale, Oct. 1st, 1898.

must draw a distinction between the mitral and aortic valves. There might be very little relation between the loudness of a mitral murmur and the degree of mischief, but he had often traced some relation between the loudness of the murmur and the amount of aortic regurgitation as indicated by the pulse. As regards hypertrophy of the heart in cases of aneurysm statistics showed distinctly that in the absence of valvular disease and renal mischief aortic aneurysm did not *per se* lead to hypertrophy of the heart.—Dr. PERCY KIDD did not think there was necessarily any relation between the loudness of the murmur and the extent of the valvular mischief if one might judge of the amount of aortic regurgitation by the pulse. Another valuable means of estimation was the presence or absence of the second sound of the heart. If it be present the regurgitation could not be very great. This case was certainly a remarkable one if only in respect of the fact of perforation in this extraordinary site. He had a case now in the wards in which the aneurysm was making its way backwards. He would like to ask whether the kidneys were healthy, because that would account for hypertrophy of the left ventricle. He regarded it as quite settled that pure aneurysm never produced hypertrophy of the ventricle.—The PRESIDENT thought that one of the most remarkable facts about these cases of aortic aneurysm was the extensive absorption of hard parts which might go on without very great suffering by the patient. He mentioned a case in which an aneurysm had been seen pulsating at the back through a hole in the scapula which had become absorbed without much inconvenience to the patient. In reference to the bruit as an evidence of the degree of valvular destruction, he thought the presence or absence, and the degree, of the accompanying heart sound were of far greater value. Thus, in mitral disease the amount of the first sound present with the murmur, presuming the first sound was not replaced altogether by the murmur, really gave them a considerable amount of information. He would like to ask whether tracheal tugging was noticed in this case, for it would be of interest to know how low down aneurysm may be without giving rise to tracheal tugging.—Dr. CHURTON, in reply, regarded it as definitely settled in the discussion last year that hypertrophy of the heart was not a necessary consequence of aneurysm if the cardiac valves were healthy. He was surprised to learn of an aortic regurgitant murmur having been heard in the neck. It must, he thought, have been a very loud one. He had paid special attention to the question of estimating the degree of aortic regurgitation and he believed there were two signs to which considerable value could be attached and he mentioned a case in illustration. The first related to the position in which the murmur could be best heard. The point of maximum intensity was usually situated about the fourth or between that and the fifth left costal cartilage; but when it could be best heard over the fifth or sixth cartilages it indicated considerable regurgitation. The second feature was the position and character of the cardiac impulse. If this was wide and wavy, extending, for instance, over a distance of an inch or an inch and a half, it indicated a considerable enlargement, and therefore a large degree of regurgitation. The condition of the kidneys in the case which he had brought before the society had not been a subject of very close scrutiny, but they were slightly affected. He thought that either diseased arteries or diseased kidneys might produce cardiac hypertrophy; but if both were affected together it was certain to occur.

Dr. FREDERICK J. SMITH showed a case of Obstinate Anæmia associated with Peculiar Trophic Disturbances and with Doubtful Thrombosis of the Superior Longitudinal Sinus. The patient was a girl, aged 19 years, who was admitted to hospital with what appeared to be simple idiopathic anæmia, and when she first came under observation in 1895 she had improved under iron. In 1896, while taking large numbers of Blaud's pills, she developed features of peripheral neuritis. In 1898 she suffered from warts on one hand which showed peculiar phenomena of growth and decay. In 1899 she became much worse and was admitted with a grave degree of anæmia, and while in hospital developed most peculiar nervous symptoms consisting of (1) a prolonged condition of serious interference with the respiratory mechanism, with periods, lasting some hours, of rapid breathing (66 or more per minute), alternating with hours of very slow breathing; and (2) intermittent fits of unconsciousness with convulsive movements of the face and right arm and leg. No treatment seemed of any avail, but the patient gradually improved until the headache and pain in the legs were her only complaints. Incisions down to the bone of both tibiæ relieved the latter; but nothing had touched the headache so far. Dr. Smith summarised the points of interest in the case as follows: (1) its extreme intractability; (2) the nervous phenomena, apparently due to peripheral neuritis; and (3) the nervous phenomena, apparently of central origin.—In reply to the PRESIDENT Dr. SMITH stated that when the incision was made in the leg no pus was found though there might have been slight excess of vascularity.—Dr. PERCY KIDD, who had seen the case in hospital, thought that the case was a very puzzling one. On the whole, he was inclined to agree with Dr. Smith that it was probably a case of thrombosis of the lateral sinus.—Dr. NORMAN DALTON remarked that until this year he thought that thrombosis was a comparatively rare complication of anæmia, but he had recently examined a case in which he had found extensive thrombosis in all the cranial sinuses. The patient had died with cerebral symptoms. In another case which he had seen there was a thrombus extending all up the vessels of the arm. He also referred to the case of a young woman, aged 20 years, who was sent to him on account of persistent headache. The pain was entirely localised to the longitudinal sinus, and among the symptoms were numbness and movements in the left arm. The illness had started with symptoms somewhat resembling an attack of influenza, but in this case there was a suspicion of inherited syphilis. This should be borne in mind when a case resisted treatment by iron.—Dr. ROLLESTON asked what was the condition of the pulse during the attacks and especially as regards the tension. In some respects this case seemed to resemble Stokes-Adams's disease, which condition was characterised by high arterial tension. He asked if there was much constipation.—Dr. T. D. SAVILL thought the question of syphilis had to be borne in mind in all such cases of unexplained anæmia, and asked what had been the course of the temperature. He referred to the case of a boy, aged 15 years, who was admitted into hospital for profound anæmia. Extreme pallor, a cardiac murmur, and diurnally intermitting pyrexia were the only symptoms, and the case was thought to be pernicious anæmia. But after death it was clearly a case of congenital syphilis, for a gumma was found in the frontal region involving the longitudinal sinus; others were found on the inner surfaces of some of the ribs and faint striæ could be detected in the cornea. None of these lesions had been capable of detection during life. The boy belonged to a most respectable family, but congenital syphilis was certainly in operation.—Dr. CHARLES BOX also wished to advert to the bearing of the case on syphilitic anæmia. He mentioned the case of a man who was admitted into St. Thomas's Hospital with profound anæmia. An examination of the blood revealed nothing unusual excepting a slight increase in the eosinophile cells. For some time no conclusion could be arrived at, but one day a small serpiginous ulcer was discovered in the throat. He also referred to another case in which thickenings were found on one of the tibiæ. Examination of the blood showed no increase in the eosinophile cells. The patient died and the ordinary signs of pernicious anæmia were found.—Dr. SMITH, in reply, admitted that the possibility of syphilis had not occurred to him, but he would take care that it was now inquired into. When she was at her worst the pulse was very small—asphyxial. Her temperature in the early days averaged about 97°, though she had several days of unexplained pyrexia, at odd times, in which the temperature had risen to 99° or 101°.

BRITISH GYNÆCOLOGICAL SOCIETY.

Exhibition of Specimens.—After Results of Operations for the Removal of the Uterus and Appendages.

A MEETING of this society was held on Oct. 12th, Dr. MACNAUGHTON-JONES, President, being in the chair.

Dr. MACNAUGHTON-JONES showed:—(1) Two Uteri removed by Vaginal Hysterectomy for Intractable Prolapse; and (2) a Fibro-myoma removed by Supra-vaginal Hysterectomy.

Mr. CHARLES RYALL showed Two Uteri with Fibroid Thickening removed by Abdominal Hysterectomy.

In the discussion on these specimens the following speakers took part: Dr. HEYWOOD SMITH, Dr. J. A. MANSELL MOULLIN, Mr. J. FURNEAUX JORDAN, Mr. BOWREMAN JESSETT, and Mr. J. WALKER SMYTH.

Mr. J. FURNEAUX JORDAN read a paper on the After

Results of Operations for the Removal of the Uterus and Appendages. His statistics dealt with 43 cases of removal of both appendages for disease and 24 operations for myoma of the uterus. From the after-histories he investigated the following points: the severity and duration of the symptoms due to the production of the menopause and their occurrence at fixed periods; the continuance of menstruation after operation and the occurrence of vicarious menstruation; the effect of the operation upon the body weight; the effect upon the marital functions; the condition of the scar of the abdominal incision; the state of the general health and the capacity for work—these points having reference to the first group of cases. He was led to the following conclusions: the final result of removal of the appendages for inflammatory diseases was uniformly good; the severity of the artificial menopause was most marked in young women; the mortality in severe cases of pyosalpinx treated by abdominal section was higher than one would wish; the use of the drainage-tube involved a weak spot in the scar; the likelihood of leaving behind some portion of ovarian tissue was great in cases of very dense adhesions (the effect of this passed off in time); if the appendages were fully removed menstruation ceased entirely; and the necessity for, and the advantages to be derived from, removal of the uterus would seldom occur. Mr. Jordan laid down the following rules of practice: be as conservative as possible, especially in the case of young women; treat the severe cases of pyosalpinx if possible by the vaginal route; do not drain unless absolutely obliged to and then consider the possibility of draining by the vagina; and do not get disheartened if the patient does not get the full benefit of the operation for some little time. In the second group of cases the points investigated were: the effect on the myoma of removal of the appendages; the severity of the menopause following this removal as compared with the severity of the menopause following hysterectomy; and the general health of the patient subsequently to operation. Mr. Jordan found that after removal of the appendages the tumour disappeared entirely, except in two cases where hysterectomy was required later, and two other cases where sufficient time had not elapsed. He found that the sufferings of the artificial menopause, when the appendages were removed for myoma, were much less on the whole than in cases of removal of the appendages for disease, but this he believed to be explained rather by the greater age of the former patients, whose average age was 37½ years, as compared with the age of patients operated on for diseased appendages, where the average age was 30 years. The menopause following hysterectomy was a little less severe than in cases of removal of the appendages, but, again, the average age of the patients at the time of operation was higher than that of the patients who underwent the operation of removal of the appendages, being as high as 40 years. As regards the general health of the patient after operation, on the whole the final results were very good. On the general question of the treatment of myoma he had come to the following conclutions. Firstly, he found that cases occurred in which no operation was immediately called for which under the continuous administration of ergot and hydrastis combined with rest might safely be kept under observation, provided that the myoma did not increase in size. Secondly, that there were cases which distinctly called for removal of the appendages in preference to hysterectomy. This was especially the case with patients who had become absolutely blanched with severe hæmorrhage; the extra time and the extra shock, which in an ordinary case would not affect the ultimate result, might in these blanched and almost bloodless patients be just the turning point that might lead to a fatal result. Thirdly, for large tumours he believed that abdominal hysterectomy was the treatment. Fourthly, for small myomata demanding interference from their rate of growth, from hæmorrhage, or from pain, he should hesitate between vaginal hysterectomy and removal of the appendages; in a stout patient he would prefer vaginal hysterectomy; and in one with a small vagina he would prefer removal of the appendages.—The paper was discussed by Dr. ARTHUR GILES, Dr. HEYWOOD SMITH, Dr. HERBERT SNOW, Mr. BOWREMAN JESSETT, Dr. R. H. HODGSON, and the PRESIDENT; and Mr. FURNEAUX JORDAN replied.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.—The annual meeting of this society was in held the Newcastle Royal Infirmary on Oct. 12th, Dr. R. S. Peart being in the chair.—The following officers were elected:—President: Dr. W. Robinson. Vice-Presidents: Dr. J. Limont, Dr. J. Adamson, Dr. G. H. Hume, and Mr. A. E. Morison. Honorary secretaries: Dr. Thomas Beattie and Dr. Albert M. Martin. Committee: Mr. G. E. Williamson, Mr. Rutherford Morison, Dr. R. S. Peart, Dr. D. Drummond, Dr. James Drummond, Dr. James Murphy, Dr. G. R. Murray, Dr. Thomas Oliver, and Mr. Walter Ridley.—Dr. G. R. Murray brought forward a case of Tuberculous Phthisis treated in the garden of the hospital. The patient, aged 38 years, had suffered from phthisis in its first stage affecting the right apex and associated with pleuritic effusion for about three months. Tubercle bacilli had been found in the sputum. For 59 days he had spent an average of seven and a half hours per day in the hospital garden, situated in the centre of a large town. All other special treatment had been purposely withheld and improvement was marked by increase in weight and strength with diminution in the amount of sputum.—Dr. Beattie brought forward a case of Tuberculous Phthisis treated as an hospital out-patient. This was a man, aged 35 years, who came under observation 14 months previously with unmistakeable signs of excavation at the left apex and at that time weighed 7st. 7lb. He obtained light employment, spending the whole of his time out-of-doors, sleeping with windows wide open, &c.; he was gorged with food to the full extent of his means and in addition had taken creasote regularly. He now weighed 9st. 6½lb., an increase of two stones, and it was impossible on physical examination to recognise him as a case of phthisis.—Dr. Beattie also brought forward a case of Quotidian Ague occurring on Tyneside. The patient was 22 years of age, was an Irishman from Belfast, and for the past five years had resided and worked at Hebburn-on-Tyne as a driller. He had always been employed on new ships; he had never partaken of stale water from ship's tanks, nor had he been bitten by mosquitoes or other insects. He had never been abroad, the nearest traceable contagion being a case of ague in a man living in the same street. The attacks were severe, typical, and quotidian, lasting about five hours and anticipating each day by one hour. All other possible cause of rigor had been excluded and the plasmodium malariæ was demonstrated in the blood, slides of which were exhibited. The attacks had readily reacted to quinine. The case was brought forward to demonstrate the occurrence of ague in a district considered to be ague-free. Mosquitoes had been seen on Tyneside during the past summer and practitioners might therefore be called upon to deal with similar cases.—Dr. George Murray cited the case of a boy whom he had seen a few days previously with mild tertian ague and in whose blood he had found the plasmodium. The boy had never been abroad but had been in the habit of going on board ships.—Dr. Hume brought forward: (1) two cases after treatment for Pancreatic cyst; (2) a successful case of Pylorectomy; and (3) a patient after Choledochotomy.—Dr. G. V. Miller read notes of four cases of Acute Retro-bulbar Neuritis, apparently all caused by rheumatism.—Dr. Drummond showed a water-colour drawing of a patient suffering from Functional Heart Disease with functional cyanosis. The symptoms somewhat resembled those of Raynaud's disease, though the "syncope" and "asphyxie" were general rather than local. Dr. Drummond had met with four cases of the kind. The patient, aged 18 years, a woman of highly nervous temperament, suffered from the attacks after any excitement. The attacks commenced with palpitation, followed by pallor, which changed to a pale leaden hue, when the face presented a most ghastly and death-like appearance; the blueness deepened to a marked cyanosis, and with this stage there appeared a short systolic tricuspid bruit. During the attack there were marked mental hebetude, short shallow respiration, and occasionally during the pallid stage an epileptic convulsion. Various remedies (strychnine, amyl nitrite, &c.) had been tried without special effect, but as time advanced these attacks were becoming less frequent and severe.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—A meeting of this society was held on Oct. 9th, the President, Dr. Thomas Barr, being in the chair.—Dr. Rutherfurd showed a specimen of a Meningocele from the Occipital Region and the patient, a child, from whom it had been removed. Dr. Rutherfurd said that the prognosis was interesting on the question of the ultimate benefit to the child from the operation. The patient was imbecile and he looked on the meningocele as merely a part of a general defect in the brain formation. As regards the method of operation, upper and

lower skin flaps had been raised and the pedicle transfixed and tied with interlocking sutures. The cyst was then cut away and the flaps were sutured. Healing took place per primam.—In reply to a question put by the President Dr. Rutherfurd stated that he considered the mouth breathing of the child was a concomitant of imbecility apart from nasal obstruction which might exist.—Dr. Rutherfurd also showed a specimen of Œsophageal Stricture of Valvular Form from a woman, aged 30 years. The symptoms were vomiting without relation to the nature of meals; the vomited matter varied in appearance from clear watery to greenish material evidently from the small intestine. The case was at first thought to be gastric, but the bougie was stopped at a distance of 12½ inches from the incisor teeth. Gastrostomy by Witzel's method was performed, but fluid introduced into the stomach was immediately vomited. The patient died 36 hours after operation. The stricture was caused by a valvular fold situated within two inches from the cardia and above it was a pouch containing a quantity of grumous material. Death was caused by incessant vomiting and this was difficult to account for save on "reflex" theory. She had suffered from gastric symptoms for six years, which had been more pronounced during the last six weeks. Probably the stricture was traumatic in origin.—Dr. W. L. Reid exhibited a specimen of Cancer of the Cervix for which vaginal hysterectomy had been performed. The broad ligaments were ligatured by means of Dr. Reid's modification of Jessett's pedicle needle.—Dr. A. R. Ferguson read a report of the pathological appearances.

PATHOLOGICAL SOCIETY OF MANCHESTER.—The annual meeting of this society was held on Oct. 11th, Dr. R. B. Wild being in the chair, when the following officers were elected:—President: Mr. W. Thorburn. Vice-Presidents: Dr. E. S. Reynolds and Dr. A. Brown. Treasurer: Dr. T. A. Helme. Secretary: Dr. T. N. Kelynack. Research secretary: Dr. F. C. Moore. Committee: Dr. J. G. Clegg, Dr. W. E. Fothergill, Mr. J. E. Platt, Dr. A. W. W. Lea, Dr. F. C. Moore, Mr. W. A. Renshaw, Dr. E. J. Sidebotham, and Mr. J. W. Smith. Auditors: Dr. F. J. H. Coutts and Mr. F. H. Westmacott.—The following card specimens were exhibited:—Dr. Brooke and Dr. Wild: Photographs of Skin Affections.—Dr. A. H. Burgess: (1) Duct-papilloma of the Breast; (2) Carcinoma of the Body of the Uterus; and (3) Uterus Five Days after Delivery.—Dr. Delépine: Series of Cultures of Micro-organisms.—Dr. Fothergill: (1) Encephalocele; and (2) Exomphalos.—Dr. Helme: (1) Myomatous Uteri removed by Abdominal Hysterectomy; and (2) Ovarian Cysts removed from Subjects over 65 years of age.—Dr. Orr: (1) Rupture of the Left Ventricle; (2) Tumour of the Brain; (3) Sarcoma of the Liver; and (4) Chronic Renal Disease with Impacted Calculi.—Mr. Whitehead: Sarcoma of Undescended Testicle.—Dr. Eurich: (1) Melanotic Sarcoma; and (2) Kidneys and Suprarenals from two cases of Addison's Disease.—Dr. Powell White: Liver from a Case of Pyelophlebitis.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—The annual meeting of this society was held in the Medical Library of University College, Bristol, on Oct. 11th, Dr. Roxburgh and afterwards Mr. Harsant being in the chair.—The President (Mr. Harsant) gave his inaugural address, taking as his subject Medical Bristol in the Eighteenth Century. In the address were described some interesting old customs and many most amusing professional anecdotes were related. Mr. Harsant derived most of his information from some old manuscript volumes by Richard Smith in the possession of the committee of the Bristol Royal Infirmary, and he gave a graphic description of some of the physicians and surgeons of the infirmary a hundred years ago.—Mr. Paul Bush, the honorary secretary, Dr. B. Rogers, the editorial secretary, and Mr. L. M. Griffiths, the honorary librarian, read their respective reports for the year, the latter mentioning that the society's library contained 3177 volumes and received regularly 168 periodicals, and that the Bristol Medical Library, of which it formed a part, had altogether 19,982 volumes with 224 current periodicals.—The following officers were elected:—President-elect: Dr. D. S. Davies. Honorary secretary: Mr. Paul Bush. Committee: Dr. Michell Clarke, Mr. J. Dacre, Dr. B. Rogers, Mr. Munro Smith, Mr. J. Taylor, and Dr. H. Waldo.

FOLKESTONE MEDICAL SOCIETY.—The first meeting of this society for the season 1899–1900 was held in the Board Room of the Victoria Hospital on Oct. 6th. There were present: Dr. Tyson (President), Mr. R. Davis, Dr. Eastes, Mr. Ellis, Mr. A. J. Gore, Mr. J. W. T. Gilbert, Dr. Fosbery, Dr. Hackney, Dr. Latter, Mr. W. W. Linington, Mr. B. Madden, Mr. A. Murdoch, Dr. Perry, Mr. Powell, Dr. E. G. Sworder, and Dr. Larking (honorary secretary).—The minutes of the last meeting were read and confirmed.—The President announced that all the medical men sent in returns of the number of midwifery cases which they attended in the year 1898; the total amounted to 544. The birth-rate in 1898 being 662, it was calculated that 118 cases were attended by midwives, or, speaking roughly, rather more than a sixth of the total.—Dr. Tyson read notes of a case of a man who suffered from Ankylostomum Duodenale. Microscopical specimens of the worm, male and female, together with the ova, were exhibited.

Reviews and Notices of Books.

Twentieth Century Practice: An International Encyclopædia of Modern Medical Science. Edited by THOMAS L. STEDMAN, M.D., New York City. In 20 volumes. Volume XVII.: Infectious Diseases and Malignant New Growths. London: Sampson Low, Marston, and Co. 1899. Pp. 715.

THIS volume contains an account of Diphtheria and of Tetanus and also of the various malignant new growths. The description of diphtheria is supplied by two writers, Dr. W. H. Park of New York taking the general pathology and bacteriology and Professor A. Jacobi contributing the sections on the symptomatology and treatment. Dr. Park commences with an interesting account of the history of diphtheria, showing that the disease is of great antiquity and that it has prevailed either in a sporadic or in an epidemic form from the time of the Greeks until the present day. As might be expected from the position of the author, as assistant director of the Research Laboratory of the Health Department of New York City, the bacteriology of diphtheria is very ably described; and in support of the specific character of the Klebs-Löffler bacillus a very instructive accidental experiment is related which was observed by the author three years ago. One of the laboratory workers unintentionally drew a quantity of bouillon culture of a virulent diphtheria bacillus into his throat and two days later characteristic diphtheria of a serious type developed. The author gives a very full account of the morphology and biology of the bacillus and details its characteristic appearances in various culture media. The question of non-virulent diphtheritic bacilli is very fully discussed and Dr. Park expresses the opinion that the non-virulent organisms are true diphtheritic bacilli which have lost the power of forming toxins. The tendency sometimes exhibited for the bacillus of diphtheria to persist after the complete disappearance of symptoms was shown in a marked degree in some cases examined by the author in conjunction with Dr. Beebe. They found that in a series of 605 cases in 304 the organism had disappeared within three days of the disappearance of the membrane, in 36 cases it persisted for 15 days, in four for four weeks, and in two cases it was still discoverable at the end of nine weeks. The prognosis in cases of mixed infection—i.e., where other micro-organisms have gained entrance in addition to the bacillus of diphtheria—is decidedly worse than in cases where the infection is pure, for the streptococcus seems to be very active in making a way for the Klebs-Löffler bacillus into the deeper tissues. The preparation of antitoxin is well described and Ehrlich's theories as to the value of the neutralising power of antitoxin as a test of its strength are discussed, but Dr. Park is inclined to think that for all practical purposes the neutralising power of a specimen of antitoxin is quite accurate enough and that the only error that may be committed by

employing this method is to under-estimate the strength of the antitoxin; and this is at least an error on the right side. The author quotes with approval the opinion of Biggs and Guerard that, in whatever way the subject be regarded and on whatever basis the statistics be considered, the conclusion reached is always the same—namely, that there has been an average reduction of mortality from the use of antitoxin in the treatment of diphtheria of not less than 50 per cent. and under the most favourable conditions a reduction to one-quarter, or even less, of the previous death-rate.

The pathological anatomy of the disease is carefully described, but we must enter a protest against the too frequent use of the word "pseudomembrane," even granting that it is in some degree more accurate than membrane, when used to describe a coagulated exudation, it is clumsy and unnecessarily long.

The bacteriological diagnosis of diphtheria is probably the most important section of this chapter, for at the present time the greatest stress is laid upon it. Dr. Park's account is good and he summarises in a series of paragraphs the practical conclusions which are based on the bacteriological diagnosis of diphtheria. In the first place all inflammation of the mucous membrane due to the Klebs-Löffler bacillus should be included under the name "diphtheria," and isolation should be continued for persons who have suffered from diphtheria until cultures prove that the bacilli have disappeared from the throat; diphtheria antitoxin injected subcutaneously in sufficient amount will protect from an attack of diphtheria for at least two weeks; and lastly the antitoxin will exert a curative effect in diphtheria rather by preventing the continuance of the harmful effect of the toxin than by affecting tissues already injured.

Professor Jacobi deals with the Symptomatology and Treatment of Diphtheria and in discussing the question of the mode of origin of the disease he holds that every case is the result of contagion (direct or indirect) from another case and that sewer air has nothing to do with it. In the preventive treatment of diphtheria in time of epidemics the author urges the desirability of disinfecting public vehicles, such as omnibuses and railway trains, and he quotes the regulations for schools issued by the Board of Health of the State of New Jersey. These are sensible and would certainly tend to limit the spread of an epidemic. All milk and water should be boiled. Chlorate of potassium is considered by Dr. Jacobi to be of some value in preventing the disease as it tends to keep in health the mucous membrane of the pharynx, and in this connexion he points out the harm which may follow the unwise use of strong caustics and antiseptics to the throat, for they tend to produce abrasions of the surface which admit the diphtheritic bacillus. We are glad to see that the danger of large doses of that widely used drug (chlorate of potassium) is pointed out; it is a great depressant and causes irritation of the kidneys, and not a few fatal cases have been recorded. Among preventive measures an important place must be given to injections of antitoxin, but the immunity of one injection of 200 to 400 units does not seem to exceed 30 days. For the local curative treatment the author advises one or two drops of a 50 per cent. solution of carbolic acid in glycerine, but he deprecates compelling struggling children to submit to energetic applications, for in most cases the screaming and struggling do more harm to the child than the application does good. For general treatment, of course, antitoxin holds the first place, but we thoroughly agree with the author when he says that other internal remedies may do great service when given in addition to the antitoxin; and this is especially true of the cases of "mixed infection." The drugs which Dr. Jacobi has found most useful are perchloride of iron and perchloride of mercury.

Dr. Victor Babes of Bucharest contributes the article on Tetanus, and the chief interest of it naturally centres in the treatment, though the prophylaxis is of great importance and consists practically in the thorough antiseptic treatment of all wounds. The first indication, the author tells us, in any case of tetanus arising from trauma is to disinfect the wound by means of carbolic acid and in some cases amputation is advisable, though Dr. Babes thinks that too much reliance should not be placed on it. Nerve section he does not consider to be of any great value, yet he allows that it might be advisable in cases of very severe tetanus if the particular nerve that should be divided could be readily determined. The local use of carbolic acid was first recommended by Baccelli on the strength of a recovery which followed its employment in a very severe case and the author has obtained results which have not been surpassed by those associated with the antitoxin treatment. It is probable that the carbolic acid does not act merely as an antiseptic, but that it has a direct action on the toxin. As to the practical value of tetanus antitoxin Dr. Babes does not speak very hopefully, for it is very rarely that we obtain in man the conditions which are in animals necessary for the curative action of the antitoxin. We are further told that "it is important that the antitoxin should be as fresh as possible and should be injected in as large a quantity and as frequently repeated as is feasible, in order that the toxins which are yet circulating in the blood may be destroyed." The total quantity of antitoxin injected in each case during its whole course by Dr. Babes is usually from 300 to 500 cubic centimetres. The intra-cerebral injection of the antitoxin, as recommended by Roux and Borrel, is described and approved. The author concludes by reminding his readers that the introduction of the antitoxin should not restrain them from making use of other well-tried remedies. A copious and valuable bibliography is appended to the article.

Mr. Roger Williams of Clifton is responsible for the account of the General Pathology of Cancer and the 200 pages which it occupies contain a very elaborate presentment of the subject. At the present time the most widely discussed question in connexion with carcinoma is its etiology and Mr. Williams expresses his opinion with no uncertain sound. He claims that we can well account for all the phenomena of the disease without any call for a micro-organism, and he considers "that the agency of microbes is no more necessary to account for the genesis of cancer than it is to account for the genesis of a tooth or a hair." The theory of etiology to which the author gives his adherence is stated as follows: "The process by which cancers and other neoplasms arise may be regarded as a kind of abnormal gemmation, the tumour being the result of the modified superinduced repetition of the developmental process, and its qualities the result of the degree of emancipation of its elements. In the case of malignant tumours cell potentialities of the highest order have been awakened, hence the persistence of the excessive proliferative activity of their constituent cells, which is a notable feature of malignancy." The theory may be stated in other words: the growth of the cells of all tissues is subject to a normal restraining influence, and when, under pathological conditions, this restraining influence is modified or withdrawn, then these cells grow and multiply more rapidly than those still subject to the normal restraining influence. We can hardly agree with Mr. Williams that this theory accounts perfectly satisfactorily for all the phenomena of malignant growth, but it is to be hoped that it will not be long before we have definite knowledge on this perplexing pathological problem. On page 287 we are told that "in the animal world it is only the domesticated that are affected; in a state of nature these diseases are unknown." This statement is hardly borne out by facts

for though malignant disease is rare in wild animals it is certainly found.

It is now generally agreed that within recent years there has been an increase in the prevalence of cancer, though different opinions are held as to the amount of increase. The author considers that one great cause of this increase is the change of environment which has occurred within the last half century for several millions of the population; they have changed from an agricultural to an industrial mode of life. Unfortunately for this theory Mr. Williams tells us on page 259 that the cancer mortality is low in mining and industrial centres, but high in most agricultural districts. Elaborate statistics are supplied on every imaginable point in connexion with the disease and the article will doubtlessly be extensively quoted for these valuable figures, and the collection and arrangement of this large body of facts must have required a very great expenditure of time. The question of recurrence is discussed and the author is in accord with the general surgical opinion when he states that recurrence practically always means incomplete removal. He advises that malignant new growths should not be incised during removal, for by so doing there is no small likelihood of scattering portions of the diseased tissues from which fresh growths may spring. With this advice we fully concur.

Dr. W. B. Coley of New York has undertaken the subject of the Symptomatology and Treatment of Cancer. The disease is considered as it affects the chief organs of the body. The two most important sections are those dealing with cancer of the breast and cancer of the rectum. In carcinoma of the breast the author advises that if the skin be involved a very wide area of skin should be removed without any regard to subsequent closure of the wound, and the pectoral fascia and the axillary glands and fat should be removed in every case. The mortality from the operation itself is estimated at about 2 per cent. and the permanent recoveries are considered to be probably about 25 per cent. The more extensive operations, involving resection of the clavicle and amputation of the shoulder-joint, are declared to be rarely, if ever, justifiable.

The general pathology of sarcoma has been undertaken by Mr. Roger Williams who has described this variety of new growth in the various situations in which it appears. The etiology is discussed along very much the same lines as the author followed in his article on the Pathology of Carcinoma and he arrives at precisely similar conclusions.

The article on the Symptomatology and Treatment of Sarcomata has been contributed by Dr. W. B. Coley and the treatment by mixed toxins, which was devised by the author in 1892, deserves full notice. In this treatment the toxins of the streptococcus of erysipelas and of the bacillus prodigiosus are injected in cases of inoperable sarcomata. At first the toxins were used also in carcinomata, but the results were so unsatisfactory that it was soon abandoned. The unfiltered toxins, sterilised by heating to 58° C., are the most useful, for the filtered form has only one-tenth the strength, though it is better to employ the filtered form in children and delicate patients. That the action of the toxins on the tumour is through the agency of the blood-stream is shown by the fact that the injections are efficacious even when given at a distance from the tumour. In spindle-celled sarcomata absorption without breaking down is more common, while in the round-celled variety the reverse is the case. The danger seems to be exceedingly small if the treatment be commenced with a small dose, such as a quarter of a minim, and the quantity be very slowly increased. The aim should be to give sufficient to produce a temperature of from 101° to 103°F. and the strictest precautions should be taken to guard against infection by rendering the skin and needle quite aseptic. If no improvement occurs within three weeks there will be little use in continuing the treatment. As to the results in Dr. Coley's own cases, eight cases continued well for more than three years and nine for from one to three years; in four cases the growth recurred after having once disappeared. Spindle-celled sarcomata are especially readily amenable to the treatment and the melanotic variety is the least influenced of all.

A useful contribution on the Malignant New Growths of the Skin is from the pen of Dr. J. T. Bowen of Boston; it includes an account of Mycosis Fungoides.

Professor Edward McGuire's article on the Malignant Diseases of the Female Organs of Generation concludes the volume. It is complete and fully up to date.

Tuberculosis of the Genito-Urinary Organs, Male and Female. By N. SENN, M.D., Ph.D., LL.D., Professor of Practice of Surgery and Clinical Surgery, Rush Medical College; Attending Surgeon to the Presbyterian Hospital; Surgeon-in-Chief, St. Joseph's Hospital, Chicago. Illustrated. London: Rebman Publishing Company, Limited. 1898. 8vo, pp. 317. Price 17*s*.

WE do not remember to have met with any volume dealing with exactly the subject to which this work is devoted and we are therefore inclined to concur in the opinion expressed by the author that there was a gap in medical literature which is filled by his book. The organs which are included under the term "genito-urinary" form a well-marked group which is peculiarly prone to invasion by the tubercle bacillus, and when this germ has successfully attacked one part of this group it usually spreads with remarkable rapidity to the rest of the organs. So commonly is it found that the disease of the male genital organs when first discovered is not primary but has extended from some other part of the genito-urinary apparatus that much doubt has been expressed as to whether tuberculosis of the male genital system is ever really primary. Professor Senn is quite certain that the disease is occasionally primary. In more than 50 per cent. of the cases of uro-genital tuberculosis the author considers that the disease has its primary starting-point in the epididymis, and although it is very difficult to be certain in so doubtful a matter we think there is much to be said for this view. In women the disease seems to start most commonly in the Fallopian tubes, whether the infection has come from without per vaginam, or has been brought by the blood, or has come from the peritoneal cavity; and this tendency to tuberculosis is to be explained probably by the anatomical peculiarities of the salpingeal mucous membrane.

Tuberculosis of the bladder is a subject of great practical importance, for the pain to which it gives rise is severe and increases with the progress of the disease, and it occurs before, during, and after micturition. Unfortunately the treatment is far from satisfactory. Professor Senn advises the prolonged internal administration of guaiacol or its carbonate, for he has seen marked benefit from its use. Turning to the operative treatment we find that the author considers suprapubic drainage to be far preferable to the perineal method, and the curetting and other treatment of the affected portion is much easier through the higher incision.

Tuberculosis of the kidney by itself forms a large subject and occupies nearly 100 pages of this work. The diagnosis of this condition has been much facilitated by the recent introduction of new methods, of which the use of the cystoscope and catheterisation of the ureters deserve to be specially mentioned. When an operation has been decided on great care, the author tells us, should be exercised in the choice of an anæsthetic and of antiseptics. Chloroform is less likely than ether to produce serious vascular changes in

the kidney, but it must be absolutely pure. There is increased risk also of poisoning by antiseptics such as carbolic acid, corrosive sublimate, and iodoform; therefore these should be employed with caution. The results of nephrectomies for tuberculous kidney are far from good, although, according to Steinthal's statistics, in half the cases the other kidney is healthy, yet it may not be able to assume the necessary functional activity to compensate for the loss of the diseased organ, and as also tuberculosis of the kidney is very frequently accompanied by tuberculosis elsewhere the cases which are really suitable for nephrectomy are rare. The lumbar route is preferred, but Professor Senn suggests that transperitoneal nephrectomy might be deprived of much of its danger to life by the operation being performed in two stages—the first part of the operation consisting in making an abdominal incision and suturing the margin of the posterior peritoneal incision to the peritoneum of the abdominal incision and then packing the cavity with sterile gauze and closing the rest of the incision by temporary sutures. The suggestion is certainly ingenious. The whole book is very carefully written and numerous references are given to the writings of others. The printing and get-up of the work are good.

The Unconscious Mind. By ALFRED T. SCHOFIELD, M.D. Brux., M.R.C.S. Eng. London: Hodder and Stoughton. Pp. 436.

A PROMINENCE has been given of late to the discussion of psychical subjects not only in magazine articles but in the daily press of this country, which no doubt is partly due to the remarkable presidential address of Sir William Crookes at last year's meeting of the British Association. The appearance of the present volume written by a practical physician may be regarded as one of the signs of the times. The endeavour of the work is to establish the fact of an unconscious mind in man. It is interesting and instructive as an assemblage of extracts from the works of men of acknowledged talent, including some of the profoundest intellects that have engaged in psychological or metaphysical investigations, and the author frankly admits that in writing this book he has sought to establish every point and every statement on the authority of others with the result that it appears to be mostly a collection of the opinions of other people. While pursuing his study in the field of psychology and kindred sciences the writer found the whole subject of the phenomena of unconscious mental action in a state of chaos, "vaguely denied by some and gravely asserted by others." Dr. Schofield urges the importance of the principles of unconscious education to teachers, arguing that often the best and most efficacious form of training in youth is addressed to the unconscious self. Several of the chapters discuss the general relations between the unconscious mind and the body, and the chapters especially interesting to practitioners are those dealing with the unconscious mind and disease and their relation to therapeutics which are all well worth reading with care. In speaking of quacks and their "cures" he says: "One of the most extraordinary paradoxes of to-day lies in the fact that, simultaneously with an advance in scientific medicine wholly unparalleled in the world's history, there is on every side a quackery that flourishes and triumphs as much as, or more than, in the darkest of the dark ages." The author holds that the charlatan's *modus operandi* is explained by the action of the unconscious mind of his patient. In the midst of the many extracts from the works of others the writer gives a few interesting personal experiences.

LIBRARY TABLE.

An Atlas of Syphilis and the Venereal Diseases, including a Brief Treatise on the Pathology and Treatment. By Professor Dr. FRANZ MRACEK of Vienna. Authorised translation from the German, edited by L. BOLTON BANGS, M.D., Consulting Surgeon to St. Luke's Hospital and the City Hospital, New York; late Professor of Genito-Urinary Surgery and Venereal Diseases, New York Post-Graduate Medical School and Hospital. With 71 coloured plates. London: The Rebman Publishing Company, Limited. Philadelphia: W. B. Saunders. 1898. 8vo. Pp. 122. Price 15*s.* net.—This is one of the Lehmann Medicinische Handatlanten, a valuable series by no means so well known in England as in continental countries, and this is to be ascribed to the fact that hitherto no English translation has existed. This volume contains 71 plates, which are equally creditable to the artist and to the printer, for they are very life-like and give an excellent representation of the various skin lesions in syphilis. Each plate is accompanied by a description which includes a short history of the case and the treatment adopted. A brief account of syphilis is also given at the end of the volume, but the most valuable portion of the book certainly consists in the plates. It would have been well if more care had been taken to translate the German expressions into terms which are commonly used in this country; for instance, a primary syphilitic sore is in nearly every instance spoken of as a "sclerosis." This is very liable to confuse a student who has been accustomed to apply the term "sclerosis" to any pathological condition in which there has been an increase of fibrous tissue. Again, in Plate 29 is shown a portion of a leg with syphilitic ulcers with exuberant granulations and the plate is described as showing "proliferating pustular ulcers (frambesia or yaws)." The average student would not understand that the plate represented what has been called "syphilitic frambesia," but would think that he was shown an example of the frambesia or yaws of the West Indies. Except for these comparatively slight defects nothing but praise can be awarded to this useful little volume. We noticed the German edition in our issue of May 7th, 1898, p. 1264.

Manual of Diseases of the Skin, with an Analysis of 20,000 Consecutive Cases and a Formulary. By L. DUNCAN BULKLEY, A.M., M.D., Physician to the New York Skin and Cancer Hospital, Dermatologist to the Randall's Island Hospitals, &c. Fourth Edition, revised and enlarged. London: J. & A. Churchill. New York: G. P. Putnam's Sons. 1899. Pp. 362. Price 6*s.* 6*d.*—The preceding editions of this little work have been so well received that it is evident that it has proved useful, and for those, both practitioners and students, who desire a brief account of the diseases affecting the skin we can warmly recommend this treatise. This fourth edition has been revised and to some extent enlarged, but the book is still small. A great deal of attention has been paid to treatment and the list of prescriptions is likely to prove useful. The index is complete and a "Diagnosis Index" is also supplied, to which the reader may turn in attempting to diagnose a doubtful case. The absence of illustrations must, however, detract somewhat from the value of the book.

A Son of Rimmon. By ATHOL FORBES. London: Jarrold and Sons. Pp. 240.—Mr. Forbes's preface led us to imagine that his book was all about witchcraft, but it is not. We quite agree that the belief in witchcraft is not dead and it is not impossible that there may be certain persons who can influence others for evil in a physical sense, for there is no doubt that there are persons who influence others for evil in a moral sense. But Mr. Forbes's Raath, who turns out to be our old acquaintance Hazael who succeeded to the throne of Syria by the simple process of murdering his predecessor, is a

most unconvincing necromancer. Bulwer Lytton's Arbaces is worth twenty Raaths and Meinhold's incomparable Sidonia is superior to both. Mr. Forbes has descriptive power and the account of the battle in Chapter XX. is very good.

JOURNALS.

Annales de Gynécologie et d'Obstétrique. August—September. Paris: G. Steinheil. 1899. Price 8 francs.—This double number contains some of the more important reports and papers read before the Amsterdam Congress of Gynæcology and of Obstetrics. Professor Pinard presented a report upon the Indications for Cæsarean Section compared with the Indications for the Operations of Symphysiotomy, Craniotomy, and the Induction of Premature Labour. His conclusions are as follows: In the treatment of contracted pelves and the induction of premature labour, all operations such as the application of forceps or version, implying the extraction of the fœtal head by force against the bony resistance of the pelvis, whether the bony resistance situated at the brim, in the cavity, or at the outlet, and embryotomy upon the living child, should be given up. His view is that in such cases the treatment should consist of momentary enlargement of the pelvis by symphysiotomy, pubiotomy, ischio-pubiotomy or coccygotomy, conservative Cæsarean section or partial or total hysterectomy, and embryotomy upon the dead child. Further details are given of the cases of symphysiotomy at the Clinique Baudelocque from 1897 to 1899, bringing the total number up to 100 with 12 maternal deaths. Professor Lebedeff and Dr. P. Bartoszewicz presented a report upon the Variability of the Pelvic Measurements in Different Attitudes of the Body. Professor Porak read a paper upon Omphalotripsy, advocating the application of pressure forceps applied for from 10 to 15 minutes as a certain and sufficient means of arresting hæmorrhage from the cord. Professor Baldy's paper upon the Surgical Treatment of Fibroids of the Uterus and Professor Hartmann's paper upon the Relative Value of Antiseptics and of Perfection of Technique in the Actual Results of Operative Gynæcology are given in full. The rest of the number, consisting of some 370 pages, is of great interest and value, containing as it does the proceedings and full reports of the discussions and papers read at the Congress. The editors are to be congratulated upon presenting so full an account of the proceedings of the Congress to such of their readers as will not have access to the complete Transactions.

THE TYPHOID FEVER EPIDEMIC AT TRING.—A site at Tring has been given by Lord Rothschild for an isolation hospital which the urban district council has resolved to erect, at a cost of £2500, in consequence of the outbreak of typhoid fever in the district.

THE PFAUDLER VACUUM SYSTEM OF FERMENTATION.—The application of this system to the production of lager beer on a very large scale has recently been commenced at the brewery of Messrs. Allsopp at Burton-on-Trent. We hope shortly to return to this subject, inasmuch as the departure is quite new in regard to the English brewing industry and has an important bearing upon the beverage of the people. We have often confessed surprise that English brewers did not pay attention to the brewing of lighter beers like those consumed on the Continent. We are confirmed in our opinion by the important step which Messrs. Allsopp have recently taken that there is a growing demand for a lighter beverage. In a future number we propose to publish an account of the machinery at Burton which was inspected last Wednesday by a very large company of visitors from London. At the same time we think that it will be instructive to our readers if we print the result of a series of analyses, which will be undertaken in THE LANCET laboratory, dealing with the composition of the new English lager beer.

New Inventions.

IMPROVED OVUM FORCEPS.

THE Ovum Forceps depicted in the accompanying illustration has been made for me by Messrs. Allen and Hanburys, 48, Wigmore-street, W. I think it meets a felt want. The ordinary ovum forceps is well known, having a pair of blades which meet at a point at the end, the only place at which they are in contact, and the theory of its action seems to be that the egg-shaped ovum will fall into the oval aperture of the blades and, lying there, be easily extracted. In fact, as all practitioners know, it does nothing of the sort. Often enough an ovum is torn in the act of extracting it and then a portion being left and being besides attached to the uterus, cannot be removed by the ordinary ovum forceps which grasps it only by the extreme tips of the blades. Finding this difficulty in many of the cases in which I was asked to assist practitioners I first got the ordinary ovum forceps flattened out, so that the blades should be in contact all the way along and not merely at their tips. The serration at the blades gave a rather better grip and a little more power of extraction was gained. Still, however, too often the blades slipped over a portion of the attached placenta, and other means had to be used to extract it. Curetting is objectionable in many of these cases because it injures the delicate mucosa. So I suggested the instrument shown, a kind of evolution of the ordinary ovum forceps and a considerable improvement on it. The edges of the blades, whose general curve and shape have been retained, as they required no improvement, have been bevelled, so as to avoid injury to the uterine mucosa. After their introduction the blades are opened and moved in the direction of the attached placental tissue which can often be just touched but cannot be extracted by the tip of the index or middle finger. When the blades are opened the placenta or ovum can be grasped between them and then the projected teeth, projecting four on one side against three on the other, each fitting into the openings on the opposite side when the blades are closed, grip the ovum or placenta and extract it. I have found this instrument serve me well on several occasions. Practitioners are usually struck by its adaptability to the intended purpose, and more than once have I heard it said that it was the "very thing." Messrs. Allen and Hanburys have suggested and carried out the further improvement of an aseptic joint which allows of thorough cleansing of the blades each one separately after use. It is, of course, used with strict aseptic and antiseptic arrangements. By its use I have often been able to obviate the necessity of widely and forcibly dilating the os and cervix, which it is better to avoid when possible in the management of these cases.

A. RABAGLIATI, M.A., M.D., F.R.C.S. Edin.,
Honorary Gynæcologist, Bradford Royal Infirmary.
Bradford, Yorks.

THE DUNKLEY (GAS) MOTOR CAR.

THE motor car represented in the accompanying illustration is intended for two adults, as a phaeton, or for two children and a governess, or for one adult. It is driven by a Dunkley gas motor, which is constructed either so as to be capable of taking in gas from any ordinary gas-pipe, with a gas-bag attached, or to work with gas that is generated as

required while the car travels along. The speed of the car is from two miles to 20 miles per hour; it measures 5 feet long, 4 feet 6 inches high, and 2 feet 8 inches wide, so that it can go through any ordinary doorway and stand in any ordinary room. It weighs about four and a half hundredweight, has two brakes, can be stopped instantly, and will turn in the

narrowest streets. It is claimed for it that it is easily controlled by a youth or a lady; is entirely free from smell, vibration, and noise; and is guaranteed to be fire-proof. The price is £55 net. The patentee and manufacturer is Mr. W. H. Dunkley, of Dunkley House, Hounsditch, E.C., and 61, Jamaica-row, Birmingham. Our readers will recollect that THE LANCET of Oct. 14th (p. 1027) contained an annotation on the expenses of a medical man's motor car.

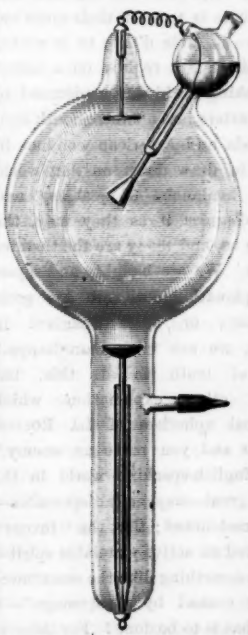
A URINE TEST CASE (MARTINDALE).

To perform with appreciable accuracy the determination of glucose, urea, and albumin in, and the specific gravity of, urine with a set of apparatus contained in smaller compass than is provided in this outfit is, we should imagine, hardly possible. The test case when closed measures six inches by two and a half inches by four inches. When open, as shown in the accompanying illustration, it serves as a test-tube rack, and attached to the lid is a convenient table showing at once the percentage of the constituents sought in accordance with the readings of the graduated instruments. The case contains an albuminometer (Esbach's), a graduated tube for glucose determination, a ureameter for the determination of urea, a urinometer for reading off specific gravity, spirit lamp, test tubes, test-tube brush, four stoppered bottles of reagents with patent rubber stopper bands, funnel, graduated pipette, litmus papers, filter papers, cloth, calculation tables, and a little book of instructions and charts. We have carefully tested the apparatus, using entirely the materials provided in the case, with standard solutions prepared in THE LANCET Laboratory, with the following results: a 1 per cent. solution of glucose recorded by Martindale's test case 1·10 per cent.; a 1·7 per cent. solution of urea recorded 1·40 per cent.; a solution of specific gravity 1030 showed by the urinometer provided in this case a specific gravity of 1029·5. The tables were used in arriving at these results and the instructions generally followed. The test case, therefore, may be relied upon to give an account for clinical purposes sufficiently accurate to be a guide to the practitioner. The advantage of an apparatus which is so compact and yet which enables a rapid and fairly accurate

analysis of urine being made at the bedside will be very generally appreciated. This mahogany test case cabinet has been designed by Mr. W. Martindale of 10, New Cavendish-street, Portland-place, London, W.

AN IMPROVED X RAY TUBE.

MESSRS. HARRY W. COX, Limited, electrical engineers, of 10, 11, and 28, Cursitor-street, Chancery-lane, W.C., have recently introduced an important modification in the construction of the vacuum tube which enables the tube to be used more satisfactorily with the Wehnelt interrupter. As



is well known it has been found difficult hitherto to employ a tube which would stand the enormous energy of the current so derived. The anode terminal becomes overheated till, in fact, it gets above red heat. Under these conditions it is not possible to run the current for any length of time. The tube shown in the accompanying illustration has a cone-shaped metal anode which is hollow. Into the small glass bulb at the top of the anode is poured a little cold water which fills the hollow cone-shaped anode, so that during the passage of the current the water prevents the anode from melting, and a much stronger current can be used without overheating the anode. After some time the anode gets hot enough to boil the water. The advantage thus gained is very marked. The rays impinging on the fluorescent screen are steadier and give a maximum degree of illumination, and the shadows obtained are remarkably sharp and well defined—indeed, we have not seen better results, the tube being specially adapted for the exploration of deep cavities. It shows perfectly well the shadow of the heart and the movements of respiration, and gives the best result yet attained towards arriving at a diagnosis by means of the x rays. The tube is somewhat expensive, but this is a small consideration where accurate deductions are desirable. With this tube there is no difficulty in working with the Wehnelt interrupter, and Messrs. Cox supply x ray apparatus which is specially made to work with this ingenious and simple electrolytic break.

THE LANCET.

LONDON: SATURDAY, OCTOBER 21, 1899.

A WINTER sojourn among an unsympathising, not to say hostile, population, is a chastened joy, but such, says a frequent contributor to our columns, seems likely to be the portion of Englishmen who are to spend the next five or six months on the Mediterranean seaboard. The bitter feeling which English intervention in behalf of the Uitlanders in the Transvaal has aroused on the Continent is almost incredible—particularly among the French, the Swiss, and the Italians. Ignorant of the facts, they see nothing in that intervention but another proof of British aggressiveness and greed—nothing on the side of the Boers but the struggle of a nobly independent people in defence of their threatened freedom. An English reader cannot open a French, a Swiss, or an Italian newspaper without being irritated or amused by the travesty of recent South African history which they present and by the severely, nay scurrilously, anti-British comments which the said travesty inspires. And what is true of the press of these nationalities is true of their quite too audible conversation in hotels—at table d'hôte or in winter garden. The phenomenon, indeed, is a replica on a larger scale of what the English-speaking world was condemned to read and hear in the same quarters just a twelvemonth ago, when British action at Fashoda and American conduct in the war with Spain seemed to draw down on that world a hitherto scarce suspected avalanche of jealousy and uncharitableness. In truth, disguise it as they may, the continental nations do not love us, and many are the theories put forth to explain the fact. We are haughty and supercilious, according to one explanation; we are too prosperous, according to another; or, as a Spaniard in broken English expressed it, we are "too dam happy." There may be a scintilla of truth in all this, but not more than in that other explanation which justifies itself by the cynical aphorism of LA ROCHEFOUCAULD—"Confer a favour and you make an enemy." That the presence of the English-speaking world in the winter cities of the South is a great—nay, an indispensable—source of revenue to them is undoubted; that the "favour" thus "conferred" does not breed an actively amiable spirit—nay, that it is coincident with something like the resentment consciously or unconsciously evoked by "patronage"—is equally unquestionable. So what is to be done? For those of our valetudinarians or sun-seeking compatriots who can ill brook the irritation of a "policy of pin-pricks," or whose hitherto enjoyable sojourn on either Riviera—Ponente or Levante—is apt to be poisoned by the anti-British atmosphere they feel around them, there is the resource of Egypt and the Nile. Or if that takes them too far afield at too great a cost of time and money, there are the many salubrious sheltered nooks of the British Isles to which, as the recent lecture of Sir HERMANN WEBER[1] reminds us, neither patient nor consultant has hitherto done anything like justice. True the world of fashion has hardly yet favoured these spots with the light of its countenance, but this winter a beginning might be made and once their resources and capabilities were fairly recognised they might continue to attract in still greater proportion. It will be no loss to Great Britain, heavy as it may be to the hotel interests abroad, if this renewed and aggravated outburst of anti-British feeling in the Sunny South conduces to a trial of our health-resorts at home, followed by an appreciation and a development of them which have for far too long been withheld.

IN 1871 ALFRED LUTON wrote in the *Nouveau Dictionnaire de Médecine et de Chirurgie* that in regard to treatment perforation of the stomach offers no other indication than that which is appropriate to every other case of hyperacute peritonitis. If it does not prove promptly fatal it calls for no particular treatment beyond strict abstinence even from water. Dr. LENNANDER has had a personal experience of 15 cases in which a more active treatment was adopted, and records his experiences in a recent number of the *Centralblatt für die Medizinischen Wissenschaften*. In accordance with the observations of others the disease, he has found in his practice, occurs most frequently in women between the ages of 16 and 30 years and in men between the ages of 40 and 50 years, but duodenal ulcers seem to be more frequent in men than in women. The seat of the ulcer is more commonly in the anterior than in the posterior wall and at the cardiac extremity and in the smaller curvature than in the pylorus and the larger curvature. The diagnosis of the occurrence of perforation rests upon violent pain in the epigastrium. When the pain is chiefly localised in the right hypochondrium and side it betokens duodenal ulcer with perforation. Shock is usually present but may be entirely absent. Soon after the perforation has taken place the abdomen is retracted and the abdominal muscles are tense, but these symptoms are less apparent as the peritonitis becomes more pronounced. A slight rise in temperature indicates inflammation of the peritoneum, the extent and position of which should be carefully made out. So much for signs and symptoms.

The mode in which the infection advances has been followed out by Dr. LENNANDER, who shows that there are certain definite and typical paths or channels. If the perforation occur at the posterior part of the stomach the contents of the stomach are discharged into the bursa omentalis and thence the infection may spread through the foramen of Winslow to the rest of the membrane. When the perforation is in the anterior wall the contents of the stomach are conducted along the transverse colon and omentum to the right or left or to both sides of the abdominal cavity. The nearer the perforation lies to the cardia the greater is the probability that the left subphrenic space will be infected. When the perforation is at the pylorus or in the duodenum the

[1] THE LANCET, May 20th, 1899, p. 1344.

gastric contents pass to the right in front of the right kidney whence they may pass between the liver and the diaphragm, may occupy the whole right lumbar region extending to the iliac fossa and pelvis, and finally may pass along the sigmoid flexure and reach the left iliac fossa. The interior of the true pelvis is infected at a very early period after perforation has taken place, for the gastric contents either run in front of the gastro-colic omentum and colon into it or they pass along the right or left lumbar region and iliac fossa. When the diagnosis of the perforation has been established operative procedures should be at once undertaken. A vertical incision four or five inches in length must be made in the middle line with two transverse cuts, and if the ulcer be found it must either be excised or closed by covering it with a portion of the omentum, and to avoid the formation of a stricture the suture in the vicinity of the cardiac and pyloric apertures must be made at right angles to the long axis. The surgeon must next turn his attention to the cleansing of the abdominal cavity, which is very difficult to accomplish, and if there be much meteorism impossible. The best means is to wash the cavity out with a solution of common salt containing about 0·75 per cent. Dr. LENNANDER has employed nearly 50 litres at one time at a temperature of about 104° F. The most difficult region to purify is that which is situated just below the diaphragm. To effect this properly the hands should be pushed in on either side of the suspensory ligaments of the liver between the diaphragm and liver as far as to the coronary and triangular ligaments, and the triangular ligament may be divided in order that more space may be obtained. Sterilised gauze is then to be spread over the upper surface of the liver and over the stomach, separating these organs from the diaphragm. Both lumbar regions are to be drained, the left drainage tube passing along the external border of the spleen and issuing at the middle of the diaphragm, whilst the right drainage-tube runs above the transverse meso-colon to the ventral surface of the right kidney and as far as the duodenum. The true pelvis is to be drained in men above the symphysis and in women through the vagina. The abdominal wound is closed by a suture.

Dr. LENNANDER has treated 13 cases on these lines; of these, seven cases suffered from diffuse peritonitis in three cases of duodenal and in four cases of gastric ulcer. The ulcer was discovered in five cases. In four of these cases it was completely closed by suture; in the fifth the suture was only partially effected and was supplemented by plugging. Of these five patients two died from diffuse peritonitis; the other three recovered indeed from the peritonitis but died subsequently—one two and a half months later from a recurrence of the ulcer, the second after 17 days from purulent infection owing to a subphrenic abscess, and the third after three months from purulent pericarditis, which also arose from a small overlooked subphrenic abscess. The sixth patient came under observation on the third and the seventh on the seventh day after perforation and died after operation. Five other patients presented encapsuled suppurative peritonitis; of these three recovered and two died. The thirteenth case was one of phlegmonous gastritis with diffuse peritonitis which also, after operation, proved fatal. It thus appears that although admittedly a very unpromising form of disease to treat life may occasionally be preserved by bold antiseptic measures.

THE card of the Pathological Society of London for the session 1899–1900 has just been published to the members of the society and presents an innovation in the fact that four of the fifteen meetings are announced to take place in various laboratories instead of at the usual headquarters of the society in Hanover-square. These four laboratory meetings have been arranged with the view of enabling certain experimental work to be demonstrated before the society and the proceedings of the meetings will resemble those of the meetings of the Physiological Society in that they will be more or less private. The reason for the privacy is, we understand, that certain prominent members of the Pathological Society have felt that publication of their discussions in our columns and elsewhere somewhat hampers exchange of opinion and fetters discussion. With the view of obviating this, which would assuredly be considered by all as a drawback to the work of the society, the Council of the society has passed a resolution that at the laboratory meetings the discussions shall be considered private and that the papers read at these meetings shall only be published if the authors so desire. The first of these meetings will be held at the laboratory of the Jenner Institute on Tuesday, Nov. 7th, and wild horses could not drag from us the name of the gentleman who will inaugurate the era of confidential communications or the subject which he will debate under the fire of the freer criticism that is anticipated under the altered circumstances.

We have nothing but commendation for this departure of the Pathological Society. In days of old the great cry of THE LANCET was "More Light," and many a stand-up fight has been waged in our columns, sometimes to be continued in the law courts, in assertion of our right to publish whatever we chose that took place in medical societies, at the meetings of medical corporations, in the wards of hospitals, and in the lecture rooms of medical schools. But at the time when our endeavours to let in the light of publicity upon all sorts and conditions of medical work were so strenuous, medical progress and the practice of all medical men were suffering from the tendency of the leaders of the profession to pursue their art and acquire their science in the most hole-and-corner manner possible. No interchange of ideas was possible then for no one read the words of the teachers; and the classes which heard them accepted what they were taught without any security that they were being soundly instructed. In those days secrecy was strangling the growth of medical science. Circumstances now are different, and the Pathological Society in the regulations under which its laboratory meetings have been instituted has recognised this. There is no lack of publicity in modern medical work. On the contrary, the tendency is to speak out loud and to speak in public before perfection of knowledge has been arrived at, to announce the merely probable or apparent as the actually discovered, and generally to be in too great a hurry to give fruit to the world regardless of whether it is ripe or sour. Now such is the

politeness of the members of the medical profession one towards another that chances of frank discussion have been missed at the meetings of the Pathological Society because the public conditions of the debate have precluded speakers from opening their minds. This is the view of the Council of the society and we think it is probably sound. And because frank discussion has been wanting, what may be called without disrespect immature work has suffered. Statements based upon shallow experience may, for example, have gone forth unchallenged which should have been called severely in question; while the results of work that would have been all the better for free and full discussion have been kept locked up in the bosoms of more thorough investigators who have not felt themselves in a position strong enough to ventilate their views.

It is upon this latter class of immature work that the laboratory meetings of the Pathological Society should have a particularly favourable influence. The investigator will be able to present his results to the society and thereby to register such measure of priority as he is entitled to. He may, and in many instances certainly will, derive practical assistance from his colleagues' remarks, whether these be encouraging to his work or the reverse. And he will not be afraid to make bold statements, for he will feel that there is no finality about the proceedings and that no fair workers in the same field will later pin him down to the letter of assertions made in a tentative spirit. In short, the proceedings at these meetings should form a good example of the best kind of progress—that where we hasten slowly, and such is the result that the Council of the Pathological Society has had in view. "Festinare nocet, nocet et cunctatio sæpe," said OVID, and it seems to us that these confidential debates should help the medical profession to avoid either ill. The premature laying down of dogmas will be arrested, while true progress will be assisted.

Annotations.

"Ne quid nimis."

AID FOR THE WOUNDED.

THE Army Medical Department has not the power of providing comforts for the wounded beyond the limits laid down by War Office regulations. Although these are ample in the ordinary way when no excessive strain is thrown upon the Department it has always been found necessary to supplement them by outside assistance in times of great emergency. The National Society for Aid to Sick and Wounded in War on previous occasions has always undertaken this duty. A perfect system of organisation by the British Red Cross Committee has, however, now been completed by which the three great factors of philanthropic work—the National Society for Aid to Sick and Wounded in War, the Army Nursing Reserve, and the St. John Ambulance Association—have been brought together and the work of these several bodies made to act in conjunction the one with the other. Her Royal Highness the Princess Christian of Schleswig-Holstein and Miss Wedgewood represent the Army Nursing Reserve, Viscount Knutsford, G.C.M.G., and Sir John Furley represent the St. John Ambulance Association; whilst Lord Wantage, K.C.B., Lord Rothschild, and Sir William MacCormac represent the National Society for Aid to Sick and Wounded in War. These are further assisted by Surgeon-General Muir, representing the Army Medical Service; Colonel the Hon. F. W. Stopford, officer in charge of Mobilisation Services; and Lieutenant-Colonel Gubbins, Assistant Director of the Army Medical Service. A large quantity of stores, bandages, splints, and stretchers, &c., have already left St. John's Gate on the order of the Cape Town Centre of the St. John Ambulance Association. Sir John Furley during the last fortnight has been daily occupied in endeavouring so to arrange existing railway carriages, or to have new vehicles constructed, as to form a complete hospital train. Every detail has been carefully worked out but it now appears doubtful whether any wagon-building company can execute the work within a reasonable time, although it is recognised that even if completed some time hence it would be of inestimable value later in bringing down invalids from up country. It is the intention of the British Red Cross Committee to fit out a hospital ship which will be used for the purpose of carrying invalids between Durban and the Cape and from the Cape to England. The steamer intended for this purpose will probably be determined upon this week. It is incorrect to state that a "Red Cross Manual" will be issued by the British Red Cross Committee, as there is no intention of so doing. The book of Regulations of the Central British Red Cross Committee just issued has given rise to this erroneous idea. So many ladies are anxious to be employed in some work for our soldiers that it is rather difficult for the Committee to keep pace with the correspondence. However, we may say that if any lady or working party of ladies wishes to be occupied in making garments, the best way would be to send a pattern to 18, Victoria-street, S.W., for approval, which if accepted would serve as a copy for further work. Such action as this would prove of the greatest help to the Committee.

MEDICAL PRIVILEGE AND LIFE ASSURANCE.

THE Besançon court has recently given a judgment which renders even more definite than before the absolute privilege of a medical opinion in France under whatever circumstances. A man had entered into a contract of sale, before a notary, giving as security an annuity in which he had a life interest. He died 20 days after the signing of the contract. His heirs tried to set aside the contract, arguing that he knew at the time when he signed the contract that he was suffering from the disease from which he eventually died and that consequently the contract had not been made *bonâ fide*. They brought into court in support of their claim a certificate from the medical man who had attended the deceased and various prescriptions from the same medical man. These they offered to submit to expert opinion in order to prove their contention that the mortal disease existed in the contracting party at the time of signing the contract. The court, however, held that the production of the medical certificate was a violation of professional secrecy and so was an illegal act upon which no legal argument could be based. The court added that in its opinion the secret of the disease from which a patient suffered was the exclusive property of such patient, that he had a right to carry this secret to the grave, and that nothing could free either the medical man or other person to whom the deceased might have been obliged to entrust the secret for professional reasons from the obligation of keeping it. The heirs, therefore, had no power to release the medical man from his obligation. In criticising this case it may be remarked in passing that in an English court of law the heirs would hardly be permitted to set up the fraud of the deceased person as a defence to the claim made against his property any more than he would have been permitted to do so had he survived and desired to free himself from his bargain, nor would the parties in question have been able

to make use of the prescriptions of the medical man without putting him in the witness-box in person. Coming, however, to the question of whether a medical man could or should be called in such circumstances, there is no doubt that in England he stands in a different position from that which he occupies not only in France but in other countries also. In New York, for instance, it has been decided that he shall not be allowed or compelled to disclose any information which he has acquired in attending a patient professionally and which information was necessary in order to enable him properly to treat his patient. The English view is best embodied in a judgment of the late Mr. Justice Maule, given in a case not dealing with medical evidence, in which he said: "There is a distinction between the case of a man who sees a fact and is called to prove it in a court of justice and that of a man who is selected by a party to give his opinion. ..... The former is bound as a matter of public duty to speak to a fact which happens to have fallen within his knowledge—without such testimony the course of justice must be stopped." It has, in short, been held that medical men enjoy no special privilege with regard to secrets brought within their knowledge in the exercise of their profession. As, however, the extent of their knowledge must often be a matter of which no one is aware but themselves, the extent to which they respect the secrets of their patients is often a matter largely within their own control, and, moreover, some may prefer to risk the displeasure of the law rather than commit what may well seem to them to be a breach of an honourable obligation. In the Besançon case above referred to we cannot see that the medical man himself need have been prevented by any scruples from giving evidence or that he would have hesitated to do so in this country. No honourable man would wish to stand by and see a fraud committed, even apart from the possibility that by so standing aside he might lay himself open to the charge of conniving or participating in it. We are speaking, of course, of a case in which his evidence is solicited; how far he should tender it is a matter for his own discretion. He is not called upon to play the part of a detective and will be well advised, as a rule, to abstain from any act that may give the impression that he is desirous of so doing.

COCKLE-BORNE ENTERIC FEVER.

THE prominence which has during recent years been accorded to the unwholesome and dangerous conditions under which oysters are in some cases prepared for market has had the effect of turning the attention of the medical profession as a whole to the subject; and whereas in times past the influence for harm of infected or polluted "shellfish" was but little heeded there is now a tendency to seek for an explanation of this nature wherever one or another kind of "shellfish" has been recently consumed by those attacked with water-borne disease. Needless to say, it is of great importance in all such circumstances to work out with great care every factor involved and to be cautious lest associated phenomena are placed in relation of cause and effect without sufficient evidence. From Exeter, however, there comes a story as to cockle-borne enteric fever which has about it an element of stern reality. The cockles alleged to have been involved were procured from the river Exe in the vicinity of one of the Exmouth sewers and they were eaten in the raw state. Moreover, it turned out that enteric fever had been recently present in certain of the houses drained by the sewer discharging near to the cockle beds. It appears that between July 1st and Sept. 11th as many as 85 cases of enteric fever were notified in Exeter, the greater number of the patients being as usual between the ages of five and 25 years. Of the 85 patients 58 had partaken of raw cockles at Exmouth or had eaten cockles procured from that locality. Nine of the persons attacked had, it is of importance to note, apparently visited Exmouth and eaten no cockles, one person had eaten shellfish other than cockles, and 17 persons had neither been out of Exeter nor eaten cockles. It would have added somewhat to the interest of Dr. Woodman's report upon this remarkable outbreak had a table giving the date of the visit to Exmouth and the approximate date of attack in each instance been furnished, but the evidence adduced points very strongly towards the conclusion that much of the enteric fever notified during the period above referred to was cockle-borne, and the whole story indicates the necessity for preventive measures. We are told in Dr. Woodman's report that boys have been seen gathering or washing cockles at the mouth of the Exmouth sewer and these boys have been warned on pain of summary proceedings against gathering cockles from this locality. But we fear that such proceedings may be rather more difficult to bring to a successful issue than the urban district council of Exmouth imagine. They may find that an attempt to prove the cockles unwholesome and unfit for human consumption is beset with difficulties and that it will cause endless expert evidence and controversy as to the meaning of the presence of the bacillus coli. Certainly persons should be warned against eating cockles procured from the neighbourhood of sewers, and it behoves those concerned to erect fitting notices to this effect. But without fresh legislation we cannot expect to properly control what must be called this shellfish nuisance, and our recent experiences as to Mr. Chaplin's Oysters Bill show us what an uphill and almost hopeless task legislation in this direction is. A Bill was prepared at much trouble and with great care only to be altogether spoilt and emasculated as a public health measure by a Select Committee of the House of Lords who, to judge by the evidence recently published in a Parliamentary Blue Book, appeared to regard it as too much trouble to ascertain the facts at issue. The subject is not one which appeals to the politician in the street, but we commend the report of this Lords Committee to the student of administrative methods and to those who are seeking to comprehend why sanitary reforms make such slow progress in this country.

THE OPENING OF THE MEDICAL FACULTY OF UNIVERSITY COLLEGE, LIVERPOOL.

THE formal opening of the winter session of the Medical Faculty of University College, Liverpool, took place on Oct. 14th, under the presidency of the Earl of Derby. The prizes gained during the previous sessions were distributed by the Rev. S. A. Thompson-Yates, the munificent donor of the physiological and pathological laboratories to the College. The annual report submitted by Professor Paterson, the dean of the medical faculty, amply showed the satisfactory progress made by the department. The number of students was 188, as against 175 and 169 respectively for the previous two years. The new entries numbered 88, against 71 in the previous year. The total number of students as well as entries had increased. The examination results had been creditable, 142 having passed professional examinations as against 118 last year. Of the medical students 72 had passed university examinations and 56 had passed various examinations of the English or Scottish corporations, while 28 had received their qualifications as against 26 last year. Of dental students 11 had become qualified as against eight last year, and three had passed an intermediate examination for the Licence in Dental Surgery. The appeal for funds for the building of a new medical school had been liberally responded to. During the year plans had been prepared for the complete building, and operations had already been commenced upon

one section providing an anatomical museum and dissecting room. The subject of the address to the students by the Rev. S. A. Thompson-Yates was founded upon Mr. J. W. Mackail's "Life of the late William Morris," an account of the thoughts and works of a remarkable man who had done much to make life brighter and more beautiful for them all. A considerable poet and artist, William Morris wished to be the builder up of a new world and redeemer of their present society from the state of ugliness which commercial competition and capitalist government had brought about. As he followed up his train of thought he became a Socialist, and it was only after years of disappointment that he realised that the time had not yet come. He saw that this poor world had been ridden by many riders who had been, one after another, unhorsed. They had had on their backs kings, marshals, priests, and Puritans. He hoped they might get rid of some of them. Even medical men, who were surely the healers of the world, might be careful not to profess to know more than they had knowledge of, not to call assumption or fads science, and not to think they had fathomed creation when they had mastered the text-books. People would think all the more of them if they were perfectly truthful with them and were sometimes ready to say, "I don't know." The reverend gentleman concluded an interesting address by advising the students to cultivate the reading of philosophy, poetry, history, and literature which would enable them to become better medical men, better men of science, and better citizens, and to be of greater use to their fellow-creatures in general.

THE CONSUMPTION OF WHISKY.

THE *Investors' Review* has recently given an account of the enormous consumption and production of whisky in the year ending March 31st last. The population of the United Kingdom swallowed considerably more than one gallon per head of what is called whisky. Very little of the spirit drunk, however, is of proof strength. On the proof standard test for last year the consumption reached 0·852 of a gallon per inhabitant and aggregated 34,334,421 gallons. Nine years before the consumption was only 29,850,523 gallons, or 0·747 of a gallon per head. The consumption for last year is the highest yet reached. This does not include the spirit exported, methylated spirit, and other odds-and-ends. If these are added to the home consumption the sum total becomes 49,381,821 gallons. Great as is the amount consumed it does not satisfy our distillers, who produced last year the prodigious quantity of 63,437,844 gallons—an increase of about 2,765,000 gallons on the previous year's output—and the total increase in consumption was about 2,898,000 gallons. It is estimated that the total accumulations of home-made spirit, mostly whisky, amount to 151,732,539 gallons, or more than three years' consumption, and the value of this dead stock is about £35,000,000. When in a recent speech Sir Michael Hicks-Beach expressed, to the amazement of many good people, his satisfaction at the unprecedented consumption of beer last year and his hope that it would increase he defended himself on the view that the consumption of beer was better than that of spirit. The remedy is a very doubtful one. But the consumption of spirit is appalling. Statesmen may create for themselves theories that extenuate a national vice which yields the Exchequer so many millions sterling a year; but, speaking from a medical point of view, we must point out that it is disgraceful and disastrous. The Registrar-General in his last report for 1897, as in previous ones, leaves us in no doubt. All medical men know that the returns are not explicit on the alcoholic causation of disease and that only the coarsest indications of the evil can be gathered from them. Yet he says: "To intemperance there were directly attributable during the year 2397 deaths—viz., 1460 of males and 937 of females. The male death-rate from intemperance was 97 and the female rate 59 per 1,000,000 living of the respective sexes, *both rates being the highest on record.*" The tables given show what is so obvious to common observers—the increase of alcoholism among women. We have extracted a few items: thus, the deaths from chronic alcoholism in the year 1897 as compared with the year 1878 in men show an increase of 82½ per cent., those of females of 145½ per cent.; and the deaths from cirrhosis in men an increase of 12 per cent. and those from cirrhosis in females of 26 per cent. The amount of disease which must be implied in such a consumption of spirit as we have described can only be estimated by medical men engaged in hospital and private practice, but the above facts concerning mortality are deeply significant. What will the Government do in the way of helping to curtail a consumption of alcohol that has no foundation in common sense and no justification in medical science?

ASTHENIC BULBAR PARALYSIS.

THIS peculiar disease was first described by Wilks in 1870,[1] when he related two cases which he spoke of as "an unusual form of glosso-labio-laryngeal paralysis." In 1877 he described[2] another case of disease of the medulla oblongata, in which death supervened within a few weeks from respiratory paralysis, and a careful necropsy revealed no naked-eye lesion. In the following year three cases were reported by Erb[3] who, being unacquainted with Wilks's papers, called the disease "a new syndrome, probably of bulbar origin." Nothing more was added to the subject till 1886 when Oppenheim[4] reported a case with necropsy, and soon after this Goldflam published a paper[5] in which he collected all previous cases and added four new ones. He was also the first to call attention to the importance of the fact that the morbid phenomena in this affection are essentially variable in intensity and are rather due to a peculiar weakness of the muscles evinced by their quickly becoming fatigued as the result of the slightest muscular effort than to a nerve paralysis. Since then more attention has been directed to the disease and valuable contributions have been made by Strümpell (1895), Charcot and Marinesco (1895), Joseph Collins,[6] and others. In the *Journal of Nervous and Mental Disease* for September Wharton Sinkler reports very fully an interesting case of this disease. It may be here pointed out that the disease usually appears before the age of 30 years and may occur as early as the thirteenth year, with perhaps a slight preference for the female sex. It begins as a rule gradually, but the symptoms may, when once established, become rapidly serious and may result fatally within a few weeks. Mild vertigo is occasionally present, together with a little pain in the muscles innervated by the nerve-centres of the bulb and pons. One of the most important and constant symptoms is the rapid and extreme fatigue which may be provoked in these muscles by even slight exertion. Among the early symptoms of such muscular involvement are drooping of the eyelids and diplopia (from weakness of the external ocular muscles and levatores palpebrarum), or else difficulty in mastication, speaking, and swallowing. Involvement of the trunk and limbs, if it follows, is a late phenomenon. The progressing weakness observed in the muscles may rapidly increase to complete paralysis. Reaction of the pupils to light and accommodation always seems to be normal. The upper extremities and hands are always involved, but

[1] Guy's Hospital Reports, vol. xxiii.
[2] Ibid., vol. xxx.
[3] Archiv für Psychiatrie, 1878, p. 336.
[4] Berliner Klinische Wochenschrift, 1886, p. 791.
[5] Deutsche Zeitschrift für Nervenheilkunde, vol. iv.
[6] International Medical Magazine, April, 1896.

weakness of the respiratory muscles is a late phenomenon. The sphincters have never been found affected. In women it has been noted that the paresis is greater in the menstrual periods. Tachycardia and irregularity of the heart's action are sometimes met with. Sudden relapses are common and may occur even one or two years after apparent recovery. The knee-jerk is normal and no muscular atrophy is present in the lower limbs. As contrasted with ordinary bulbar paralysis there are a number of differential characters. Thus, there is no real atrophy of the muscles of the tongue, lips, or extremities, and no dribbling of saliva, while *per contra* the patient is able to expose the teeth, pucker the lips, and whistle. There are also no disturbances of sensibility. The case reported by Sinkler is that of a married woman, aged 37 years, whose father had died from apoplexy. The mother and sisters were apparently in good health, but two brothers (one of whom is dead) had nystagmus and a rotary tremor of the head. The patient's husband was healthy and free from any suspicion of syphilis. She has six children, the eldest and youngest of whom have nystagmus and rotatory tremor of the head; the four others appear healthy. The illness began seven years ago when she was convalescing from typhoid fever. She first developed ptosis, and then diplopia from paresis of the external ocular muscles. She bore a child shortly afterwards. A month after this she became very weak and could not swallow or speak. She made a partial recovery but is still readily fatigued after slight exertion. The muscles which suffer most are those of the eyes, throat and larynx, jaws, and extremities. Most writers suggest that the disease is due to a toxæmia.

REPORT OF THE GENERAL PRISONS BOARD, IRELAND.

THE twenty-first annual report of the General Prisons Board of Ireland to his Excellency the Lord Lieutenant refers to the condition of the prisons and prisoners and to the registration of criminals in Ireland during the year 1898. The number of prisons and bridewells remains the same as at the date of the previous report—viz., three convict prisons, 19 prisons for local prisoners, six minor prisons, and 14 bridewells for male and female prisoners on remand or under sentences not exceeding seven days. The building formerly used as the County Clare Prison has since been converted into a State inebriate reformatory for criminal drunkards committed under the Inebriates Act of 1898. The regulations for the reformatory came into effect on June 1st, 1899. The number of persons committed to local prisons during the year, and exclusive of prisoners committed under civil process, was 38,113, as against 34,911 in the year 1897. From this it will be seen that there has been an increase of 3202 committals during the past year. From a comparison of the committals, taking prison by prison, it appears that in the rural districts the numbers remain about the same and that the increase is almost entirely in the prisons of the three principal cities—Dublin, Belfast, and Cork. The number of drunkards committed has risen from 16,298 in 1897 to 17,807 in 1898. About 47 per cent. of the total committals per year for several years past consisted of drunkards. The number of convicts sentenced during the year amounts to 91, as compared with 68 during 1897. But owing to the practice of inflicting shorter sentences since the passing of the Penal Servitude Act of 1891, which reduced the minimum term of penal servitude from five to three years, the convicts in custody are yearly decreasing and at present number only 300 males and 19 females. Of 91 sentenced during the year 51 were sentenced to the shortest term—three years. The total number of juvenile convicted prisoners during 1898 has been practically the same as in 1897. The number under 12 years of age, however, has decreased from 36 to 19. Under the special rules for juvenile offenders which were adopted in 1895 all juveniles under 16 years of age are specially treated. If their sentences amount to one month or upwards they are removed to Mountjoy Prison, Dublin, where accommodation is set apart for them. The number so removed in 1898 was 20. The shorter sentences are undergone in the prisons to which the juveniles are first committed. In all prisons special means are adopted to keep them from coming in contact with adult prisoners and special attention is devoted to them by the management. They are provided with special library books, with a larger amount of employment in the open air than older prisoners, and they receive physical drill. The health of the prisoners was on the whole satisfactory. There were 79 cases of insanity among local prisoners and five among convicts. Of the former there were 55 insane at the time of committal. The Board report that during 1898, as in previous years, valuable public service has been rendered by the visiting committees.

WOUNDS OF THE HEART.

AN inquest was held on Oct. 14th by Dr. Danford Thomas on the body of a Russian lady, aged 53 years, who died suddenly on Oct. 12th after complaining of severe pain over the heart and of inability to breathe. A post-mortem examination revealed that the pericardium was full of blood and in the left ventricle there was found an ordinary sewing needle which had perforated the wall of the ventricle. The son of the deceased in his evidence said that four months previously his mother complained of a needle having entered her ear as she lay on the sofa. It is not likely, however, that the needle gained admittance to the heart by this route. Wounds of the heart are recognised now as more amenable to surgical treatment than was acknowledged to be the case a few years ago. In 1897 Rehm of Frankfort[1] and Parrozzani of Rome were among the first to teach that wounds of the heart, which till then were considered invariably fatal, could be brought within the scope of surgical treatment. More recently Loison[3] succeeded in collecting and tabulating the records of 90 cases of wounds of the heart and pericardium in which the diagnosis was established either at the operation or in fatal cases by post-mortem examination, and in 78 of these cases it was found that the myocardium itself was injured. In the vast majority of these 78 cases death was the result and this was generally the case whether surgical interference had been tried or not before death. Suture of the heart was only practised in five cases, with the result that three patients died and two recovered, so that the results of early surgical interference were by no means unfavourable. In one case alone recovery followed without an operation having been performed, but the man was assassinated later and the necropsy which was made thereafter showed a healed scar in the heart the result of the wound which had been received before. Loison also reports a case where he attempted to remove a bullet which was lodged in the heart, the situation of which had been indicated and located by the use of Roentgen photography. The pericardium was opened and drained, but the bullet not being visible (superficially) in the heart muscle further procedure was abandoned. The patient recovered perfectly after the operation and was alive at the time of the publication of Loison's article (February, 1899). Ophulus of San Francisco,[4] who reports an interesting case of a patient who lived for some time with a foreign body in his heart, has collected from medical literature 47 other instances in some of which the patients had been known to live for

[1] Archiv für Klinische Chirurgie, 1897, p. 315.
[2] THE LANCET, July 31st, 1897, p. 260.
[3] Revue de Chirurgie, Feb. 10th, 1899.
[4] Occidental Medical Times, June, 1899, p. 426.

several years after the injury. Pagenstecher of Elberfeld[1] has recently added one more to the list of cases that have been successfully treated by surgical operation, including suturing—viz., an instance of a heart-wound three and a half centimetres long resulting from a stab inflicted near the apex of the heart on a boy aged 17 years. The records of cases taken from these various sources point on the whole to the hopefulness of early and prompt surgical operation in cases of wounds of the heart and must serve to encourage surgeons who have hitherto hesitated to resort to operation on the pericardium and heart.

THE PREVENTION OF CONSUMPTION.

THE following resolution, signed by Sir William Broadbent, has been passed by the Council of the National Association for the Prevention of Consumption: "Having understood that apprehension is entertained as to the spread of consumption from sanatoria established for the treatment of this disease the Council of the National Association for the Prevention of Consumption desire to express their opinion that there is no danger of communication from any well-conducted hospital for consumption, or from any sanatorium where the open-air treatment for this disease is properly carried out; and, further, that the inhabitants of houses in the immediate neighbourhood of such institutions are perfectly safe from local propagation from this source."

THE RE-OPENING OF KING'S COLLEGE HOSPITAL.

THE re-opening of the wards in King's College Hospital took place on Oct. 18th. A luncheon was provided by the governors and committee, acting in a private capacity as hosts, and about 80 guests were present. Viscount Dillon, the chairman of the hospital, and Mr. Awdry, the treasurer, pointed out the great advantages in the wards from the re flooring and electric lighting which were now complete throughout. They also emphasised the fact that the work had been done so expeditiously that the hospital had only been closed for ten weeks. The committee trusted that as the excellence of the work just completed became known they would be enabled through their friends and the press to meet the remainder of the expenditure. The total cost has been about £3000. The grant from the Prince of Wales's Hospital Fund and donations from friends and supporters of the hospital given without public appeal amount to £800, leaving a deficit of £2200, to meet which further donations are urgently sought.

LUNACY IN QUEENSLAND.

IN Queensland there are "hospitals for the insane" at Goodna, Ipswich, and Toowoomba; there is also at Rockhampton a receiving house with accommodation for a few cases. The annual report by Mr. J. B. Hogg on these institutions shows that on Dec. 31st, 1893, they contained 1573 patients—1022 males and 551 females. The number on Dec. 31st, 1897, was 1507, so that there was an increase of 66 patients during the year. Since the end of 1890 the asylum population has increased by 491, or an average increase of 61 patients each year. Calculated on the estimated population of 498,523 at the end of 1898 the asylum population was 3·15 per 1000 of the general population—or, in other words, one out of every 316 people in Queensland needed asylum care. During 1898 there were 293 admissions (194 males and 99 females); this was 43 more than in 1897 and was the largest number up to that time received in one year. Mr. Hogg says that there is a probability of the increase being largely due to the after-effects of the epidemics of dengue and influenza. Of these patients 169 were natives of Great Britain and Ireland; 84 were natives of Australia, and 16 were coloured aliens; eight of them were admitted as criminal lunatics. There were 113 discharges and 119 deaths. The cost of each patient for the year varied from £24 19*s.* at Ipswich to £25 19*s.* at Goodna. The hospital at Goodna, which contains 1037 patients, is liable to inundations. Mr. Hogg states that the wards on the lower levels have been repeatedly flooded even up to their eaves; in January they were flooded up to the window sills and the patients had to be moved out of them to wards on higher ground.

[1] Deutsche Medicinische Wochenschrift, August 10th, 1899.

THE LOCAL GOVERNMENT BOARD AND THE ST. OLAVE'S BOARD OF WORKS.

THE dispute between the St. Olave's Board of Works and the Local Government Board in regard to the suspension by the former of the medical officer of health of the district (Dr. W. A. Bond) is not yet at an end. The Local Government Board, it will be remembered, ordered the re-instatement of Dr. Bond, but the Board of Works demanded a public inquiry. The Local Government Board have declined to review their previous decision, and have notified their intention of issuing an order to remove Dr. Bond's suspension. The Board of Works met on Oct. 17th, when the communication to this effect from the Local Government Board was read. Nevertheless they resolved by a majority of one not to re-instate Dr. Bond.

THE DEATH-RATE OF ABERDARE.

THE Aberdare District Council has always carried out the duties devolving upon it as the sanitary authority in a very perfunctory manner, but the report of the medical officer of health, Mr. D. Davies, for the past quarter ought to awaken the council to a sense of its responsibilities. During the period named the death-rate from all causes was equal to 31 per 1000 per annum and the zymotic death-rate to 11 per 1000. In 1898 the zymotic rate was 4·1 per 1000 and the rate of infantile mortality was 225 per 1000 births, or equal to the rate that prevailed in Preston. The area under the control of the Aberdare District Council is 15,000 acres in extent and has a population of 48,000 persons. This extensive and populous district has for its sanitary staff a medical officer of health who is also in general practice and one inspector of nuisances who devotes the whole of his time to the duties of his office. The Infectious Diseases (Notification) Act was only brought into operation at the end of 1897 after repeated efforts to adopt its provisions had proved abortive, while neither the Infectious Diseases Prevention Act nor the Public Health Acts Amendment Act has yet been adopted.

RAPID DISAPPEARANCE OF POST-NASAL ADENOIDS AFTER INFLUENZA.

THE influence of one disease on another is an interesting pathological question much in need of elucidation. A number of observations have been recorded of the co-existence of two and even three diseases, but comparatively nothing has been done in investigating the subject. All that is known can be summed up thus: when two acute diseases—exanthemata, for example—co-exist each usually appears to run its course without being affected by the other; when an acute disease supervenes in the course of a chronic one the latter is often beneficially influenced and even cured by the former. This latter fact is not surprising, for intoxication by a drug is a disease, and conversely (according to modern views) most, if not all, acute diseases are intoxications by microbial products (toxins). Hence to cure by a disease is strictly analogous to curing by a drug. In *La France Médicale* of Sept. 1st Dr. Chauveau has described a new illustration of the curative influence of an acute on a chronic disease—the effects of influenza on post-nasal adenoids. A child, aged nine years,

had adenoids. An operation was decided on but an attack of influenza prevented its performance. A month later when the child was examined no growths requiring operation were found. In the case of another child, aged 11 years, operation was deferred for family reasons and influenza supervened. When the child was seen again two months later in order to have the day of operation arranged no adenoids of appreciable volume could be discovered. A third case occurred in a girl, aged 13 years. In none of these cases had there been any symptoms of inflammation of the growths. Dr. Chauveau could not find any similar cases recorded. But Bryson, Delvan, and Hooper[1] have described the disappearance of adenoids after acute catarrh of the nasal fossæ and naso-pharynx. Analogous diminution of the tonsils has been described. Corominas[2] published a case of recovery from enormous hypertrophy of the tonsils after scarlatinal angina. Dr. Chauveau concludes that in every case of adenoids in which operation is decided on and in which an infectious fever has supervened the naso-pharynx should be re-examined before proceeding to operate.

THE MEDICINE STAMP ACTS.

WE wish once more to draw attention to some enactments not as well known as their pernicious effects demand—namely, the Medicine Stamp Acts. In the last financial year, according to the Inland Revenue accounts, a duty of 1½*d.* was paid on 27,856,686 bottles or packages of medicine, a duty of 3*d.* on 5,076,805, of 6*d.* on 856,057, of 1*s.* on 108,280, of 2*s.* on 11,309, and of 3*s.* on 5703. Thus the Government stamp on 33,914,840 parcels of "certain cures" and "infallible preventives," as the great majority of patent and proprietary remedies claim to be, yielded to the National Exchequer the not inconsiderable sum of £266,572 14*s.* 11*d.* This, no doubt, is an important indirect tax, and brings in to the State a fairly large amount of money which is collected with but little trouble. Whether it is justified, however, is quite another question, and one which in our opinion admits of but one answer. The tax may have been levied, in the first instance, with the object of checking the sale of medicaments of unknown composition, but the result has been precisely the reverse. Proprietary "medicines" find their chief sale amongst the poorer classes, who, not altogether unnaturally, imagine that because a bottle or package is protected by the Government stamp, therefore the contents must have received Government recognition. The Acts in question, therefore, are of the greatest advantage to quacks in their frauds upon the poor and ignorant, for they enable them to push their nostrums in the market in a manner which without the Government hall-mark it would not pay them to employ. The words on the Government stamp, "This stamp implies no Government guarantee," are not, in our opinion, of any use in guarding against misconception. It must also be remembered that many of the proprietary "medicines," which any purchaser can procure, contain such ingredients as morphine, for example—a fact which renders null and void other legal precautions against the indiscriminate sale of poisons. That some few proprietary preparations are of value we readily admit, but the manufacturers of them make no secret of their composition. Otherwise no medical man with any respect for himself or his profession would prescribe them for his patients. But the benefits derived in this way by the community are far outweighed by the disadvantages derived from the wholesale use of quack remedies, for which reason we maintain that the Medicine Stamp Acts call for immediate amendment. We do not think that in these days of scientific enlightenment any British Government should regard with complacency the addition to its pecuniary resources of money implying so much widespread misery to the poor and sick of the nation as is implied in the £266,572 14*s.* 11*d.* received last year as duty upon proprietary medicines.

[1] American Laryngological Society, June 5th, 1898.
[2] Revue des Sciences Médicales de Barcelone, May 5th, 1899.

TWO SEPARATE FRACTURES OF THE SAME PATELLA OCCURRING AT A SHORT INTERVAL.

IN the *American Journal of the Medical Sciences* for August, 1899, Dr. J. N. Henry has published a case of two distinct fractures of the same patella which occurred at an interval of eight months. Only one similar case appears to have been previously recorded. On Jan. 31st, 1898, a man, whilst walking, slipped on some fragments of brick and fell, sustaining fracture of the left patella. He brought an action for damages, claiming that the fragments of brick had been left on the path by agents of the defendants. He had been treated on June 8th, 1897, at the Pennsylvania Hospital—less than eight months before the date of the second fracture—for fracture of the same patella. When examined on Feb. 7th, 1899, only one fracture could be detected, and in that the union was so close that no separation could be felt at the centre, while at the sides the separation did not exceed a quarter of an inch. There were also slight fibrous ankylosis of the knee and limitation of movement from adhesions between the upper fragment of the patella and the femur. The patella was much hypertrophied, measuring three and a quarter inches in length. The patient expressed himself as confident that the two fractures had not been in the same place and that the first had been nearly an inch below the second. This statement was ascribed to natural anxiety to make his case as strong as possible. However, in view of the statement of Hamilton that five months after fracture of the patella re-fracture is no more probable than if fracture had never occurred a skiagraph was taken. The result was surprising; two separate fractures one above the other were shown. Damages were awarded. The value of skiagraphy from the medico-legal standpoint is here illustrated in a new manner, for in no other way could the existence of two separate fractures be proved. The skiagraph nullified the defendants' contention that the patella was weakened by the first accident and received an injury which might not have occurred in a normal individual. No doubt, as Dr. Henry observes, this condition was frequently overlooked and confounded with re-fracture before the Roentgen rays were used in diagnosis.

PREVENTION OF TUBERCULOSIS IN QUEENSLAND.

IT is gratifying to find that the impulse given to the movement for preventing and curing tuberculosis at home is extending vigorously to the colonies. The *Brisbane Courier* of Sept. 6th gives a long report of a very influential meeting in the town hall, held in response to a circular sent out by the secretary of the Medical Society of Queensland, for the purpose of forming an association for the prevention of tuberculosis. His Excellency the Governor presided, the Premier was present, and the meeting was a great success. The Governor and the Premier both spoke with much point and their presence and speeches emphasised the fact that the prevention of tuberculosis is now a public—a State—question to be promoted at the expense of the State and in its interest. There was a general consensus of opinion that though pulmonary tuberculosis is said not to have existed among the native-born population 20 years ago they are now almost as liable to it as are the English people. Whether the influx of cases from the mother country has imported it and so caused the increase of the disease is not so clear. The medical men who took part in the meeting were Dr. J. Thompson and the Hon. Dr. Taylor. Dr. Thompson quoted a statement from a Victoria paper "that tuberculosis caused

1900 deaths per year, more than one-tenth of all the deaths and 700 more than those caused by measles, scarlet fever, fevers, whooping-cough, mumps, diphtheria, and influenza." Dr. Taylor confirmed the statement that in his early experience from 1863, and for years, he had never seen a native born who had been attacked. A proposition was carried that an association should be formed. But the most important part of the meeting was the statement by the Premier that the Government intend to create a pathological institute, connected with which will be a bacteriological laboratory open to private research under proper conditions. Other questions were mooted, such as the inspection of dairies, and it is evident that the inhabitants of Brisbane at least are not going to rely any longer on any supposed immunity from the tubercle bacilli, but to do brave battle with it according to modern lights.

A CASE OF PLAGUE LANDED AT PLYMOUTH.

TIME was when the occurrence of an undoubted case of plague on English shores would have caused a panic. Now it hardly attracts attention, so secure do we feel against the possibility of any serious spread of the disease in this country while the regulations of the Local Government Board, as formulated in the Order of Nov. 9th, 1896, are properly carried out. On Saturday morning last, Oct. 14th, the Peninsular and Oriental Company's steamer *Peninsular* arrived at Plymouth from Bombay with a case of plague on board. Mr. F. M. Williams, the port medical officer, inspected the passengers and took the names and addresses of those who wished to land. The patient, who was first reported sick on Oct. 9th, just after the vessel left Marseilles, has now much improved. He has been placed on board the hospital ship *Pique* in Jennycliffe Bay. No further case has occurred.

THE INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.

AT the annual dinner of this society, which was held at the Holborn Restaurant on Oct. 13th, the speakers confined themselves to discussing the subject in general of the administration of public health rather than matters of a purely technical interest. In this connexion Sir Walter Foster, M.P., led the way, after the chairman, Dr. Arthur Newsholme, had proposed the usual toast of "The Queen and Royal Family." Sir Walter Foster referred in a very interesting manner to the enormous growth which had marked the public health service in the last few years and he congratulated the society on the efficiency of this service. It was well within his memory that at one time there were only three medical officers of health for the whole of the kingdom, while now the list of officers had swelled to 2000. Obviously this had involved a large expenditure of public money, but there could be no doubt of the enormous good that had resulted to the community at large, as shown convincingly in the health statistics which recorded during the last decade a remarkable diminution in the death-rate and in the ravages of preventable disease. He knew no result which reflected greater credit upon the medical profession and, considering what excellent services medical officers were devoting to their country, he hoped that they would be better remunerated for those services and placed under improved and more comfortable conditions as to fixity of tenure. Sir Walter Foster's remarks were received with strong approval by the company present. Dr. Franklin Parsons followed with his experience of the growth of sanitary administration, and Dr. Bostock Hill endorsed his sentiments in regard to the status of the medical officer and his qualifications. Other toasts included "The Universities and Medical Corporations," given by Dr. E. Gwynn, which was replied to by Dr. W. S. Church and Dr. H. E. Armstrong; "Kindred Societies," by Mr. Shirley F. Murphy; "The Visitors," proposed by Dr. J. Groves and responded to by Dr. J. F. W. Tatham and Mr. H. G. Hills; and "The Press in Relation to Public Health." In the absence of Dr. Ward Cousins the toast of "The Society" was proposed by the chairman of the Health Committee of Southampton which corporation has been conspicuous[1] in taking steps to secure the efficient sanitary administration of the borough. In responding to this toast the President (Dr. Newsholme) referred to the work of the society and the benefits it could confer upon the country. The attendance was very satisfactory, the company including medical officers of health from all parts of the country.

TREATMENT OF ANTHRAX BY MEANS OF LYE.

THE *Escuela de Medicina*, a Mexican medical journal, quotes in its issue of Sept. 15th from a paper published in the *Gaceta Médica Catalana*, by Dr. Andreu y Pahi, on a Method of Treating Malignant Pustule without Incision, without Pain, without Cauterisation, and which leaves hardly any Scar. Six cases are given, of which we quote the notes on the first. "R —— M ——. Malignant pustule on the left cheek. Had been visited by another medical man who considered his condition so grave that the last sacraments were administered. They begged of me to take charge of the patient who I found had his face, head, and neck terribly swollen. Drowsiness was profound. I gave him an injection of caffeine and proceeded to treat him. Ordering a little dough to be brought, I made a ring some four centimetres deep around the pustule and filled it with lye made from equal parts of wood ashes and lime. This was left for four hours and then removed. The swelling became less the moment the treatment was begun and ceased altogether by the end of 30 hours. Neither did he feel any more pain. By the end of 20 days a scar only was left of the size of a millimetre." It is generally agreed that the most satisfactory results in the treatment of malignant pustule are to be obtained by early and complete excision of the affected part, and the mortality accompanying this method of treatment is very small indeed. But cases sometimes present themselves for treatment in which this mode of procedure is impossible or undesirable, and in such cases satisfactory results have been obtained with ipecacuanha powder. The results in the cases just referred to when treated by a strong alkali are very striking, though the value of the observation is greatly impaired by the complete absence of any reference to the confirmation of the diagnosis by bacteriological examination; but the rapid result, the absence of pain, and the small size of the resulting scar in these published cases would fully justify a fair trial of a method which claims to be capable of producing such good results.

A CORRESPONDENT writes: "At the present time the work of Major Ross has brought the question of the connexion between mosquitoes and malaria so prominently under notice that it is interesting to find that long ago the mischief wrought by mosquitoes was suspected by the acute Japanese. In a little Japanese romance written (or translated) by J. Morris and published in 1885 the following statement occurs: 'The Japanese declare that its [the mosquito's] constant attacks bring on a kind of fever; and this is by no means improbable, having in view the fact that this pest prepares for the summer campaign by a course of training on the swamps and marshes of the neighbourhood and inoculates whole families with the essences of these odoriferous hunting-grounds. If sleepless nights combined

[1] Vide THE LANCET Special Sanitary Commission on Public Health Measures at Southampton, THE LANCET, Jan. 6th, 1894, p. 47; Jan. 20th, p. 172; and Feb. 3rd, p. 290.

with repeated doses of this subtle poison were not to give rise to feverish symptoms it would, indeed, be strange.'"

AT a well-attended meeting of the Cardiff Medical Society held on Oct. 13th a resolution was unanimously carried approving of the formation of a local branch of the National Society for the Prevention of Tuberculosis. The medical officers of health of Cardiff and Rhondda, in supporting the resolution, asked for the assistance of individual members of the medical society in addressing public meetings in Glamorgan and the adjoining counties.

MR. PHILIP BURNARD CHENERY AYRES, C.M.G., M.R.C.S. Eng., L.R.C.P. Edin., whose death occurred on Oct. 12th, was for 24 years Colonial Surgeon and Inspector of Hospitals at Hong-Kong, in which position he did excellent work in the colony in the direction of medical and sanitary reform.

THE death is announced of Mr. J. Wickham Barnes, F.R.C.S. Eng., who was for many years well known as the secretary of the Poor-law Medical Officers' Association. We hope to notice his work more fully in an early issue.

THE number of medical students entered as Freshmen this term at the University of Cambridge is 141, an increase of 14 over last year. This appears to be the largest entry at any school this session.

THE WAR IN SOUTH AFRICA.

ONE thing is clear. Party controversy in the face of facts and the present situation has been relegated to a more convenient season. The Government and the people of this country were sincerely anxious to avoid war if possible; they recognised that the Uitlanders and our own subjects were denied the rights that had been promised them, were unjustly treated and grossly misgoverned, but they wanted to see things settled somehow by diplomatic agency on a reasonably fair and firm basis. Now that war has come the inevitable has been accepted with a sense of relief. The position of affairs had become intolerable even before the Transvaal Government had determined to relegate all outstanding difficulties to the sole arbitrament of the sword. The defiant, dictatorial, and peremptory tone of the ultimatum absolutely left this nation no choice. The Boer challenge has been taken up in the firm belief that the war on which we have just entered is, as far as this nation is concerned, in the cause of righteousness and liberty. Lord Rosebery simply expressed the views held by all temperate and fair-minded people when he wisely said that, without attempting to judge the policy which concluded peace after the reverse of Majuba Hill, he was profoundly convinced that there was no conceivable Government in this country which would repeat it. The present Government, in the opinion of the nation as a whole, has exhausted every means in its power, consistent with the maintenance of its own self-respect and justice to the claims of others, to avoid the war which has been thrust upon it. Everybody thought that the precipitate announcement of so audacious a line of policy on the part of the Boer Government would have been at once followed up on their part by decisive military action and a supreme effort to strike a crushing blow on the British forces in South Africa whilst they were still unprepared. The moral result of such a course would, if successful, have told with dramatic effect on the population of that country and probably decided the wavering in favour of the Boers. So far little or nothing of the kind has been done, and time is an element which must, one would think, be telling in our favour.

From a military point of view the fighting up to the present time has been comparatively futile and insignificant. The Boers have occupied Laing's Nek and Newcastle, derailed trains, destroyed bridges, attacked and isolated Mafeking and Kimberley, occupied the border with their troops, marched and countermarched, and invaded Natal in large force, only, apparently, to withdraw again. Kimberley, Vryburg, and Mafeking are isolated British posts, and if the Boers can make themselves masters of these they open the way for a movement in force into Rhodesia and in the meantime escape the risk of attacking the British troops posted in greater strength in other directions. But the Boers have now to play the part on all sides of an aggressive and attacking army, while the British will have the advantage of acting on the defensive in holding the positions which they are now occupying. This is an important difference where time forms the main element in the problem. It is highly probable that the Boers will score some successes in their efforts; still, it may be confidently expected that the troops opposed to them and acting on the defensive will, as a rule, give, as they are giving, a very good account of themselves until reinforcements arrive. Sir George White, although a notable man of war, no doubt finds himself in a very responsible and trying position, but that is by no means a new experience to him.

It may be asked, however, what has all this to do with the medical aspects of the war? Well, a good deal, for the medical service is but a part, and a necessary part, of the military machine and everything that adversely affects an army in the field necessarily tells upon the efficient working of the field hospital service and the comfort of the sick and wounded. It is not by any means easy to extract any reliable information, by the way, regarding matters of army medical detail; not that this need cause any surprise seeing that authentic information of any kind is hard to be got at. As regards the actual importance of much of the published war news it may be taken that this is in inverse ratio to the size of the type on the advertising posters. The larger and more sensational the type characters the less will be the importance and reliability of alleged facts furnished for the reader's perusal. It is gratifying to learn, however, that all are agreed that our troops are, speaking generally, in good health and excellent fettle. The weather is very hot and the climate at this season is usually very variable and thunderstorms and heavy rains prevail. We should imagine that there will be much difficulty in providing the necessary amount of barrack and hospital accommodation in permanent buildings for the more or less stationary portion of the enormously augmented increase of our forces in South Africa when at its full strength, which it soon will be. Happily this does not much signify, for sick and wounded soldiers are more safely treated under canvas or in huts than in insanitary buildings of a more permanent kind. The diseases common to an army operating in that country are those which usually prevail under such conditions—namely, febrile diseases of a more or less continued type, and notably enteric fever, diarrhœa, dysentery, and to some extent malarial diseases, in addition to those maladies which commonly occur everywhere. It has on previous occasions been a matter of difficulty to guard the rivers, streams, and other sources of water-supply against becoming fouled, and such will probably be the case in South Africa on the present occasion. It was a very wise precautionary measure to afford the troops an opportunity of being inoculated against enteric fever.

The military and Admiralty arrangements have so far worked well. There is no other country in the world which could have carried them out so promptly and on so large a scale, and the experience that has been gained will, in any case, prove of enormous future advantage to this country. Arrangements have been completed by the Government for the despatch of the Army Corps to South Africa as quickly as possible. In about a week's time no less than 16 transports will have left our shores with 1132 officers and 17,503 men, in addition to the troops which have been already sent there. All the transports are to call at Capetown for orders. As far as the Royal Army Medical Corps is concerned we note the departure of the bearer companies, field hospitals, &c., as having either already taken place or as being about to do so. The following list of transports, in addition to conveying corps, military staff, and various details which are omitted, will carry:—

Yorkshire (No. 14): Southampton, Oct. 20th.—Det. No. 2 Co. R.A.M.C. (Bearer Co.).
Roslin Castle (No. 26): Southampton, Oct. 20th.—No. 2 Co. R.A.M.C. (Bearer Co.), Depot Cos. R.A.M.C. (Field Hospital), civilian medical officers.
Harlech Castle (No. 27): Southampton, Oct. 20th.—Det. Depot Cos. R.A.M.C. (F.H.).

Lismore Castle (No. 28): Southampton, Oct. 20th.—Det. Depot Cos. R.A.M.C. (F.H.).
Manila (No. 30): Southampton, Oct. 20th.—Det. Depot Cos. R.A.M.C. (I.H.).
Nubia (No. 4): Southampton, Oct. 21st.—No. 18 Co. R.A.M.C. (F.H.).
Gascon (freight ship): Southampton, Oct. 21st.—No. 18 Co. R.A.M.C. (Bearer Co.), No. 19 Co. R.A.M.C. (F.H.).
Goorkha (freight ship): Southampton, Oct. 21st.—Det. No. 18 Co. R.A.M.C. (Bearer Co.).
Malta (freight ship): Southampton, Oct. 22nd.—Det. No. 18 Co. R.A.M.C. (F.H.).
Pavonia (No. 18): Southampton, Oct. 22nd.—No. 17 Co. R.A.M.C. (Bearer Co.).
Oriental (freight ship): Southampton, Oct. 23rd.—No. 11 Co. R.A.M.C. (F.H.).
Hawarden Castle (No. 29): Southampton, Oct. 23rd.—No. 17 Co. R.A.M.C. (Bearer Co.).
Aurania (No. 20): Southampton, Oct. 23rd.—No. 1 Co. R.A.M.C. (Bearer Co.).
Armenian (No. 25): Tilbury Docks, Oct. 23rd.—Det. No. 19 Co. R.A.M.C. (F.H.).
Nomadic (No. 34): Albert Docks, Oct. 23rd.—Det. No. 9 Co. R.A.M.C. (1st Cavalry Brigade F.H.).
America (No. 32): Tilbury, Oct. 24th.—Det. No. 9 Co. R.A.M.C. (Bearer Co.).
No. 2 General Hospital starts on Oct. 29th (Netley) in *Kildonan Castle*, also No. 3 Station Hospital (Woolwich). On Oct. 21st No. 4 Station Hospital (Edinburgh). On Nov. 2nd No. 2 Station Hospital (Chester). Personnel for two Hospital Railway Trains starts on Oct. 23rd.

It is stated that the Government have accepted the offer of the Atlantic Transport Company, Limited, of the gratuitous use of their steamship *Maine* as a hospital ship in South Africa, including the free services of the officers and crew of the ship.

On page 1108 will be found a note upon the provision that is being made to succour the wounded.

BACTERIA BEDS AND THE SHONE HYDRO-PNEUMATIC SYSTEM OF SEWERAGE AT HAMPTON, MIDDLESEX.

THE collection of sewage and the treatment of sewage are a conjoint problem which every community has to face and although the problem gathers further difficulty each succeeding year with increasing populations yet fortunately the progress of sanitary science is rapid and such as is calculated to allay any anxiety on this head. In a leading article in THE LANCET of Oct. 14th, p. 1024, we commented upon the results of some remarkable and promising experiments conducted at the instance of the London County Council at the sewage outfalls at Crossness by Dr. Clowes and Dr. Houston. In these experiments comparatively large volumes of sewage were placed upon coke beds under favourable conditions, with the result, as it was found, that purification had largely been effected and a satisfactory effluent obtained which there is reason to believe would not in any way pollute the lower reaches of the Thames. The purifying action is due to the fact that in the coke bed the action of specific bacteria is encouraged in burning up putrefiable matter or in effecting its oxidation into inoffensive products. We said, as we had predicted several years ago, that the chemical treatment would be soon abandoned in favour of bacteriological processes, that the great problem of the satisfactory disposal of sewage had virtually passed from the domain of chemistry to that of bacteriology, and, further, that the tendency of modern experience was to show that chemical treatment must soon be banished as a derelict method. Hardly had the results obtained in a ten months' trial of the coke-bed method, as applied on an experimental scale to metropolitan sewage by the Chemist of the London County Council, been published, when it was announced that the formal opening of the sewerage and sewage disposal works of Hampton would take place. These works, oddly enough, have, as a matter of fact, been working for just ten months, and in this installation again we have an evidence of the problem being solved by bacteriological rather than by chemical aid. There is not a chemical used at any stage in the process, no sludge is produced, while an effluent is obtained transparently clear, and to the senses as satisfactory as drinking-water.

The opening of the sewerage works at Hampton on Oct. 14th by Sir F. Dixon-Hartland, M.P., Chairman of the Thames Conservancy Board, marks, in fact, but the beginning of a new departure in the greatest problem in sanitary science, the collection of sewage and the disposal of sewage in accordance with the highest requirements of hygiene and rational procedure. The authorities of the urban district council of Hampton are to be congratulated on so far having determined to grapple with a problem in a spirit consistent with the teachings of modern sanitary advance. The district of Hampton has presented further certain engineering difficulties of a not trifling kind and in consequence the recent undertaking has entailed the expenditure of a considerable sum of money. It has cost very nearly £62,000. It is fair to state, however, that more than a third of this amount has been expended upon the system of conveyance, the construction of sewers, subsoil drains, manholes, &c. The construction of the sewers alone was attended with considerable difficulty on account of the nature of the ground, the subsoil water being within three feet of the surface in the greater part of the district, and even within 18 inches during winter. This appears to be due to the peculiar formation of the clay bed, which (according to the surveyor to the Hampton Urban District Council, Mr. John Kemp, A.M.I.C.E.) forms a kind of basin or series of basins inland, rising nearly to the surface, parallel with and close to the Thames, where it comprises a ridge from east to west. Similar basins and ridges were found running parallel with each other from north to south. The work was rendered still more arduous by the presence in the principal streets of 12 miles of trunk water-mains, varying in diameter from 30 to 42 inches. In addition to these were the small mains of the gas and water companies and surface-water drains. These difficulties, however, have been overcome, the council having determined to construct the sewers and accessories, brick ejector stations, &c., departmentally and without the intervention of a contractor. Eventually the scheme was sanctioned by the Local Government Board in 1895. This sanction permitted the adoption of the Shone hydro-pneumatic system, to which may largely be ascribed the fact of the engineering difficulties having been successfully overcome. Eight separate automatic ejector stations have been erected. The ejectors within these stations are automatic and receive the raw sewage as it flows down to them, and when they are filled the compressed air discharges the contents into the iron sewage delivery pipe in less than a minute, and when this charge has escaped the apparatus is ready for a second charge of sewage, which it similarly ejects, and so on continuously without the necessity of attention. The ejectors are worked by compressed air by the Shone apparatus at the air-compressing station, which is situated on the outfall site where the sewage is discharged upon the bacteria bed. The air is conveyed by small cast-iron pipes and the distance in one case is nearly two and a quarter miles, but there is no loss due to the transmission of air by resistance which is noticeable by the pressure-gauge. The volume of compressed air conveyed along the pipes is always equal to the volume of the sewage to be discharged by the ejector at the various stations. The pressure of air required is quite small and not more than 18 inches over the atmospheric pressure. So much for the system adopted at Hampton for the collection of the sewage prior to treatment and disposal.

The bacteria beds have been designed by Mr. Dibdin, formerly chemist to the London County Council, who in fact initiated the series of experiments recently described by Dr. Clowes to which we have alluded. The bacteria beds are built in three terraces with five beds in each terrace. The upper beds are 34 feet wide by 50 feet long by 4 feet deep, and are filled with clinker that has been rejected by a screen with a half-inch mesh. The middle beds are somewhat larger than the upper beds and they are filled with clinker which has passed through a half-inch mesh, the fine dust being rejected. The lowest beds are again of an increased size and are filled with still finer material which has been called clinker sand. The sewage, as we have already said, is brought to the outfalls by the Shone hydro-pneumatic system and is there discharged through screens which retain large and undissolved materials. It then flows to the upper bed until the spaces between the clinkers are filled with sewage. The sewage is left standing in the coarse bed for about an hour so as to afford the bacteria every facility for attacking the putrefiable matter in the sewage. It is then allowed to flow to the bacteria bed on the next terrace, and as the sewage flows from the coarse bed fresh air takes its place in the filter and supplies the bacteria with the necessary oxygen to maintain their

energy and vitality for the next charge. Each of the 15 beds is worked in this intermittent way, one hour being allowed for filling and one hour for standing when filled with sewage, while one hour is taken up in emptying the beds. Each bed, it is important to note, is allowed to remain empty and exposed to the air for from four to five hours, so that on an average each bed is worked three times in 24 hours, which allows time in the intervals for the beds to become thoroughly aerated. The effluent is raised by an air lift and it was formerly discharged direct into the Thames and its quality satisfied the officers of the Thames Conservancy. The Local Government Board, however, directed that the effluent water should not be allowed to flow into the Thames without being first raised and passed over the land. This involved the use of the effluent aerator lift which was put down as being more satisfactory than an ordinary steam-pump, besides effecting a final aeration of the discharged effluent. As a matter of fact, it is stated that land irrigation rather than further purifying the effluent gives up some organic matters to it and this is very clearly shown in differential chemical analyses. As to the effluent from the last bacterial bed it is quite brilliant, colourless, and inoffensive. A chemical analysis shows that the purification effected is enormous. There does not appear to be, however, any bacteriological account given of this effluent. It seems pretty certain that it would be teeming with bacteria, but with those bacteria which would carry the purifying process even further. The question still remains whether, though chemically pure, an effluent which is alive bacteriologically is fit for discharge into a stream. We are inclined to the view that it is, since pathogenic organisms do not appear to survive the energies of the myriads of nitrifying organisms. All the same we think that the Hampton authorities should have been prepared with a bacteriological statement of the quality of the effluent. One other note we may make in regard to the character of the effluent. It is shown in the chemical analyses given that after the effluent has passed over the land it takes up a very considerable quantity of saline ammonia, while the amount of organic ammonia is markedly increased. This fact seems to imply that the effluent was discharged over land under cultivation. If this is so then some explanation of the effluent, after being passed over land, giving less satisfactory results in a chemical analysis would herein be found, and in that case it is a question whether the injunction of the Local Government Board can on this evidence be condemned.

We fully recognise the important steps which have been taken by, and the excellent intentions of, the Hampton Urban District Council to adopt a satisfactory system of sewerage and sewage disposal, and we hope heartily that their energies may be attended with the success which they deserve. They must not, however, count every difficulty as being overcome. At present they appear to be dealing in the main with sewage of domestic origin; they have yet to reckon, it may be, with the discharge from factories, such as breweries, steam laundries, &c., the character of which may be such as to disturb the best working conditions of the bacteria beds. Then, again, we believe that the storm water is being sewered separately. But we do not doubt that at length the bacterial process in its entirety with further practical experience and study will be so shaped as to be equal to all kinds of refuse which is capable of being broken down into simpler and inoffensive bodies. Only the evidence of long experience can decide.

The ultimate population provided for by this installation is reckoned at 20,000. The present population—namely, 6900—discharges about 70,000 gallons daily into the sewers, so that taking an average for the whole period during which sewage has been discharged into the sewers of 35,000 gallons per day—that is, during the ten months under which the new beds have been working—the total quantity of sewage treated would be 11,725,000 gallons. When this fact is considered the healthy and inoffensive appearance of the beds is remarkable. Should the necessity arise at any time of extending the bacteria beds, sufficient land has been provided for the purpose, and in this part of the scheme no engineering difficulty of any importance may be anticipated.

BENEVOLENCE.—The Duke of Westminster has distributed among medical and other charities in Chester and North Wales the fees received from visitors to Eaton Hall, amounting this year to £1255.

REPORT ON PRISON DIETARIES IN SCOTLAND.

AN elaborate and interesting report on Prison Dietaries in Scotland by Dr. J. Craufurd Dunlop, interim medical adviser to the Scottish Prison Commission, has just been issued as a Blue-book. Before preparing this report Dr. Dunlop was instructed "that the ordinary prison dietaries should, as regards the amount of nutriment, be in no sense penal," that, in fact, all prisoners should be sufficiently fed. Taking this as a guiding principle Dr. Dunlop at the outset points out that the system of regulating the diet according to the length of the sentence—a system which has been in vogue for 45 years—must be discontinued, as by that system short-sentenced prisoners are put on a sparse dietary. Scottish prison dietaries are fundamentally the same as those sanctioned by the Secretary of State in 1854. These dietaries were well chosen and are on the whole good, as is shown by the fact that though several times scrutinised and reported on since 1854 they have been modified only in comparatively small detail. Dr. Dunlop then shows that the ordinary prisoner even when engaged in the most active of the classes of prison labour has fewer hours of active labour and longer hours of rest than the ordinary free labourer. He therefore concludes that the food requirements of a prison labourer do not exceed those of a free labourer. After a careful explanation of the general food requirements of the body Dr. Dunlop shows by a table indicating the opinions of various authorities the necessary energy value of standard diets per man. Using the standard of moderate work as that applicable to the ordinary prisoner it is shown that the energy value of the food of a man under such conditions should amount to at least 3100 calories. The diet should contain (1) at least 120 grammes of proteid; (2) carbohydrate not exceeding 550 grammes per diem; and (3) fat amounting to 38 grammes in order to bring the caloric value up to the requisite amount. In heavy diets for severe labour the caloric standard should be brought up to the required height by an increase in the proteid and fat.

Dr. Dunlop proceeds to show that extra allowance should be made for men of extra size and for nursing mothers. The average woman requires rather less food than the average man. He quotes Atwater's figures on this point and gives the female standard as follows: (1) proteid, 96 grammes; (2) fats, 30 grammes; (3) carbohydrate, 440 grammes; and (4) an energy value of 2480 calories for moderate work. For juveniles 16 years is adopted as the age limit and the dietary fixed by Camerer is accepted. This is as follows: (1) proteid, 75 grammes; (2) fats, 43 grammes; and (3) carbohydrate, 325 grammes. The energy value of this diet should be 2040 calories. For prisoners doing little or no work and for prisoners unfit to take a full diet at time of reception some modification is necessary. For prisoners with long sentences of ordinary imprisonment Dr. Dunlop recommends some variation of the routine in the diet. In the case of convicts the forms of labour at which they are employed are the same as those engaged in by the ordinary prisoner. The following differences, however, do exist. 1. The active day's work of the convict is longer; he works for eight hours, the ordinary prisoner for five and a half hours, when out in the open air or in workshops. 2. The male convict prison being in an exposed situation a man there is more subjected to climatic influences than in any of the ordinary prisons, especially so if his work is in the open air. For these reasons it seems necessary that the male convicts should receive more food than ordinary prisoners, and on account of the length of their sentence the convict diet should be more varied and more palatable than in the case of the ordinary prisoners. For even the most actively worked of the convicts, however, a moderately full diet for ordinary free labour is sufficient. In the case of criminal lunatics, since according to the rules for the government of prisons in Scotland they are to be "treated as patients under curative and alleviative treatment," the dietary scale must be generous and varied. Sick prisoners in Scotland are dieted according to the discretion of the medical officer. In England the regulations contain three dietaries for use in the prison hospital.

The report recommends the continuance of the present system in Scotland.

For prisoners under punishment for offences committed inside the prison reduction of diet may be used as a means of punishment, but must be used judiciously—that is to say, the amount of labour that is being exacted at the same time must be taken into consideration, and reduction in quantity of food must only be resorted to for short sentences. For longer sentences the diet must not be sparse but may be made untempting and monotonous. The report gives a copy of the Dietary Regulations given in the Rules for the Government of Prisons in Scotland and then proceeds to discuss and criticise the dietaries for male ordinary prisoners as at present used, as well as the dietaries for other classes of ordinary prisoners—viz., female prisoners, prisoners of more than average size, women nursing infants, juveniles, idle prisoners, prisoners with sentences of not more than three days, and prisoners with long sentences of ordinary imprisonment.

Dr. Dunlop gives elaborate analyses of the various food stuffs used in the various Scottish prisons and also lengthy observations on the metabolism in prisoners receiving the various rates of diet. A careful report is also given on the question as to whether male ordinary prisoners maintain their weight in prison. The general conclusions regarding the sufficiency of Rates I., II., III., and IV. for male ordinary prisoners are that Rates I., II., and III. are insufficient and that Rate IV. is a sufficient diet for an ordinary male prisoner doing a moderate amount of work. The Rates I., II., and III. are those used for prisoners under short sentences or untried. Rate IV., which Dr. Dunlop considers "as nearly perfect a diet as could be devised for the use of the ordinary male prisoners," is the rate for "male ordinary prisoners with sentences above four months and male convicts in probation and not on public works." This diet is composed as follows. Breakfast: eight ounces of oatmeal made into porridge with three-quarters of a pint of milk. Dinner: two pints of barley broth with 12 ounces of wheaten bread; or two and half pounds of potatoes, with three-quarters of a pint of milk and eight ounces of wheaten bread. Supper: two pounds of potatoes, with half a pint of milk; or six ounces of oatmeal made into porridge with half a pint of milk.

The general conclusions regarding the present male convict dietaries Rates VI., VII., and VIII. are as follows. 1. That the only class of convicts insufficiently fed is that at outdoor light labour. This is shown by a study of their weight records and corroborated by a comparison of the food value of the diet Rate VIII. with the standard for moderate work and by the frequent complaints of underfeeding. 2. That with the exception just named all the male convicts are being sufficiently fed. 3. That an inequality of meals exists, some dinners being excessive while some are too small. The former lead to waste, the latter to complaints of underfeeding. 4. That there is some evidence of over-feeding. That the convicts waste some porridge and bread and complain of the less savoury dinners points to their food-supply being more than their requirements. 5. That two of the dinners—the suet-pudding dinner and the fish dinner—are not satisfactory for use in Peterhead convict prison. 6. That the privilege breakfast for convicts in Classes I. and II. is not satisfactory as it raises the supply of bread to an unreasonable amount. 7. That some rearrangement of the convict dietaries is desirable. The report then gives suggestions for a new dietary for convicts and considers also the dietaries for prisoners under punishment for prison offences and the dietaries for criminal lunatics, while some space is devoted to the consideration of the food-stuffs which may, as occasion requires, be used as substitutes.

Two appendices are found at the end of the report. The first consists of notes on the Scottish Poorhouse dietaries, from which it appears that the poorhouse dietaries are of smaller nutrient value than the Scottish prison dietaries.

The second appendix contains notes on prison dietaries of other countries, the countries quoted being England, Ireland, France, and Prussia. The conclusions brought out by these notes of prison dietaries in other countries are as follows: 1. That the food varies with the amount of work performed in all prison dietaries except in the (new) English dietaries for ordinary prisoners. 2. That variation according to sex and youth is practically universal. 3. That nursing mothers receive special extras in the (suggested) Scottish, French, and Prussian regulations, but not in the English or Irish. 4. That the special requirements of men of more than average size are only met by the (suggested) Scottish dietaries. 5. That prison hospital dietaries are universal except in Scotland.

The report is to be commended as a careful, thorough, scientific, and at the same time eminently practical, piece of work.

ASYLUM REPORTS.

West Sussex County Asylum, Chichester (Annual Report for 1898).—This is a new asylum and the annual report deals with the period covered by the second year of its existence. The Visiting Committee report that the prolonged drought of 1898 threw a severe strain upon the capabilities of the well to keep up an adequate supply of water. It was necessary to remove a partial obstruction and to put a pump in the bore-tube of the well. These measures were effective while the drought lasted and on its termination an abundant supply was once more obtained. The farm has worked well from the beginning. Plans for new wards to accommodate 300 patients are about to be submitted to the Commissioners in Lunacy. The clothing required for the new patients is being made by the asylum staff and patients. The asylum was visited by an epidemic of influenza which attacked many patients and still more severely the officers and staff. The total number of cases attacked by influenza amounted to 110. With the exception of this epidemic there has been no infectious disease. The average number of patients resident during the year was 452 and consisted of 207 males and 245 females. There were 120 cases admitted during the year—viz., 66 males and 54 females. The character of the cases admitted, regarded from the point of recoverability, has not been good, and in only 29 out of a total of 120 admissions, i.e., in 25 per cent., was recovery regarded as probable. Among the predisposing causes of insanity ascertained in the admissions heredity seemed to be accountable for 43 per cent. of the cases. The next highest was alcoholic excess which appeared in 24 instances, or 21 per cent., the majority being men. Influenza was assigned as a definite cause in 11 of the patients admitted during the year. Of the total number of those discharged 24 were sent out as recovered, this being in the proportion of 5·3 per cent. of the average number resident. There were 30 deaths, 17 being those of males and 13 those of females (five deaths were due to general paralysis, five to phthisis, and nine to organic cerebral disease). The proportion of deaths to the average number resident was 6·6. The tailors', shoemakers', upholsterers' and other workshops afford useful occupations for the male patients, and about 70 per cent. of the men and 76 per cent. of the women are employed in various ways as workers.

Nottingham City Asylum, Mapperley-hill (Annual Report for 1898).—The average number of patients resident in this asylum was 637 and comprised 309 males and 328 females. There were 177 admissions during the year—viz., 82 males and 95 females. There has been during the year an increase of 40 patients—viz., 11 males and 29 females—over the numbers in the preceding year. The average annual increase of patients during the past seven years has been 32. In view of the increasing numbers additional wings for the asylum have been in process of erection for some time to accommodate 100 inmates. These are expected to be completed early in 1900, when the number capable of accommodation in the asylum will be 736. Mr. Evan Powell, the medical superintendent, points out in his report to the committee that "by the time the new wings are ready we shall have 686 patients—that is, within 50 of our total accommodation, so that in all probability our asylum with its extension will be full in two years and a half from the present time. This is so serious a state of affairs that I feel it my duty to call your attention to it now and to advise that your early consideration be given to the question of future enlargement." The cases admitted during the year were, on the whole, of an unfavourable character; a large number of the patients were in poor physical condition and showed evidence of having suffered privation. 46 per cent. of the admissions were cases quite hopeless of recovery, being for the most part those of general paralysis, epilepsy, and senile dementia. 38 of the cases had been patients in the asylum at some previous date,

and three were re-admissions within the year. "As the asylum gets older the number of re-admissions tends to increase. The epileptics appear to be increasing in number and they form perhaps the most troublesome and dangerous class we have to deal with. ..... We have admitted 14 during the year and have now resident close on 100." The discharges numbered 84, 70 of these being classed as recoveries. The percentage of recoveries on the average annual number resident was 10·9. The deaths numbered 53—viz., 31 males and 22 females, a ratio of 8·3 per cent. of the average number resident. General paralysis is responsible for 17 deaths, while pulmonary phthisis and bronchitis account for eight and cardiac disease for an equal number. New farm buildings have been completed and were occupied in September, 1898, and were found to afford excellent accommodation for the milch cows of the institution. No special system of testing for the purity of the milk-supply or for its sterilisation prior to supplying the patients with it seems yet to have been established.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary meeting of the Comitia was held on Oct. 12th, Dr. CHURCH, President, being in the chair.

The greater part of the meeting was occupied with a discussion which was declared to be "Secreta Collegii."

The following communications were received:—

1. From the Colonial Office forwarding a communication from the Government of the Straits Settlements inviting research scholars to investigate in the colony the disease known as beri-beri and offering a free passage and quarters.[1]

2. From the secretary of the Royal College of Surgeons of England (2) reporting certain proceedings of the Council on June 29th and July 27th.

3. From the University of Edinburgh announcing the award of the Murchison Scholarship in July last to Mr. Alfred Charles Sandstein, M.B. Edin.

4. From Professor Sherrington thanking the College for the honour conferred upon him in appointing him Baly medalist.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY meeting of the Council was held on Oct. 12th, the President, Sir WILLIAM MACCORMAC, Bart., K.C.V.O., being in the chair.

On the recommendation of the Museum Committee it was resolved that Dr. G. Elliot Smith of St. John's College, Cambridge, should be employed to compile a descriptive catalogue of the vertebrate brains in the Museum.

Mr. LANGTON, as Chairman of the Committee on the annual report of the Council, submitted a draft copy of the report to be presented to the Fellows and Members at the annual meeting to be held on Nov. 16th, 1899. The report was adopted.

It was resolved to celebrate the centenary of the College on July 25th, 26th, and 27th, 1900.

It was decided to postpone the further consideration of the question of alterations in the Regulations for the Fellowship.

A letter was read from Mr. Alfred Cooper reporting his attendance with Mr. Jonathan Hutchinson at the International Conference on Syphilis and Venereal Diseases held in Brussels last September. The thanks of the Council were given to Mr. Cooper and Mr. Hutchinson for representing the College.

The SECRETARY reported that Mr. Howard Marsh and Dr. Ward Cousins had attended the Congress of the Sanitary Institute at Southampton as the representatives of the College, and the thanks of the Council were given to Mr. Marsh and Dr. Cousins for representing the College on that occasion.

A letter was read from the Dean of the Victoria Dental Hospital of Manchester asking for the recognition of the hospital as an institution for instruction in mechanical dentistry and inquiring whether the Preliminary Science examination for dental students as well as the instruction for that examination may be taken prior to registration. The letter was referred to the Board of Examiners in Dental Surgery to take such action as they shall think fit.

Two letters were read from Mr. T. M. Hocken of Dunedin, New Zealand, urging the Council to proceed with the consideration of the question of a gown for the Members of the College. The consideration of this subject was postponed to the next meeting of the Council.

The PRESIDENT stated that the Bradshaw Lecture would be delivered by Mr. H. G. Howse on Wednesday, Dec. 13th, 1899, at 4 o'clock P.M., and that the subject of the lecture would be "A Centennial Review of Surgery." It was resolved that the hour for lectures during 1900 should be 4 o'clock instead of 5 o'clock P.M.

THE ENTRIES AT THE MEDICAL SCHOOLS.

BY the courtesy of the deans of the various schools and medical faculties we are enabled to give roughly the number of students who have entered the medical profession this year. As will be seen the table is not complete and we therefore postpone comment till a future issue of THE LANCET.

Under the agreement whereby joint cards of admission are issued to the clinical instruction of the following hospitals and schools of medicine—viz., Charing-cross, Guy's, King's College, Middlesex, St. George's, St. Mary's, St. Thomas's, University College, and Westminster, 83 qualified men have joined since the corresponding date of last year. Of these 38 came from the United Kingdom, 26 from the Colonies, and 19 from foreign countries.

ENTRIES FOR THE YEAR 1899–1990.

Name of medical school.	Full medical course.	Special courses.	Prelim. science.	Dental.	Full medical course, 1898-99.	Increase or decrease in full medical students over or under last year's figures.
London.						
St. Bartholomew's	115	52	17	—	100	+ 15
Charing Cross	26	34	5	26	24	+ 2
St. George's	—	—	—	—	—	*
Guy's	79	18	29	52	81	- 2
King's College	21	235	10	—	21	No change.
London	83	60	9	—	60	+ 23
St. Mary's	50	63	3	—	65	- 15
Middlesex	24	43	—	10	20	+ 4
St. Thomas's	59	7	11	—	62	- 3
University College...	35	52	32	—	*	—
Westminster	—	—	—	—	—	—
London School of Medicine for Women	18	—	10	—	44	- 26
Dental Hospital of London...	—	—	—	40	—	- 2
Provincial.						
Mason College, Birmingham	20	22	6	12	*	—
University College, Bristol...	23	3	10	2	*	—
University of Cambridge ...	141	—	—	—	—	+ 14
University College, Cardiff	12	2	7	2	13	- 1
Yorkshire College, Leeds ...	—	—	—	—	—	*
University College, Liverpool	58	4†	28	13	52	+ 6
Owens College, Manchester	76	50	47	24	66	+ 10
University of Durham, Newcastle-on-Tyne	32	50	65	4	30	+ 2
University College, Sheffield	5	—	2	1	7	- 2

* Information has not been received.
† Returns incomplete.

[1] We drew attention to this announcement in THE LANCET of Oct. 14th, p. 1049.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On the Water-supply of the Borough of Aldeburgh-on-Sea, by Dr. R. DEANE SWEETING.—Aldeburgh-on-Sea, one of the smaller watering-places on the Suffolk coast, has a population (out of the season) which is estimated at 2300. Of this number about 1700 persons are supplied from the public service of the Aldeburgh Water Company. It appears from Dr. Sweeting's report that the water furnished by this company has been the subject of numerous complaints. It is stated, for instance, to give, when heated, a distinct odour of sewage, a characteristic at times so pronounced that people at Aldeburgh have had to abandon washing in warm water or taking hot baths. Dr. Sweeting's account of the origin of this water-supply makes it plain that there are substantial grounds for the local complaints and that the water in question is habitually liable to gross pollution. The supply is derived from ground water in the coralline crag, a pliocene formation characteristic of Aldeburgh and its neighbourhood. It is collected in a reservoir from eight feet to 13 feet deep and with a capacity of 88,000 gallons, which is situated close by the town, about half a mile from the seashore. The land hereabouts is flat and the floor of the reservoir, which is bare coralline crag, is just below Ordnance datum. The level of ground-water in the crag is close beneath the surface, and hence the reservoir is ordinarily kept nearly full by natural pressure. Additional upward percolation through the floor is, when necessary, obtained by pumping, which maintains the water level of the reservoir below that of the surrounding soil. It can readily be understood that if the area from which this soil-water is derived is comparatively limited, and if the subsoil is exposed to pollution from cesspools, leaky drains, and the like, the collected water may be far from pure and would at least need thorough filtration before it could be considered reasonably safe for drinking purposes. As a matter of fact, the filtration practised is only of the most rudimentary and inefficient order; the subsoil of crag whence the water is derived is not of any considerable extent and the pollution from cesspools and otherwise is extensive. Dr. Sweeting shows in particular how the effect of high tide must be to cause a pressure which would direct water in the soil beneath the town, which is riddled with cesspools, back towards the collecting reservoir. "It may, indeed, be suspected," says the inspector, "that the Aldeburgh inhabitants are in a manner and on occasion forced into drinking their own diluted sewage." Dr. Sweeting's conclusions are in the main borne out by such chemical evidence as could be obtained with regard to the water supplied by the company. It is instructive to read that the provisional order of the Board of Trade obtained by the company in 1871 gives no redress to the consumer. Under the heading "Quality of Water," Section 14 of this order provides: "The water supplied by the undertakers shall be effectually filtered and shall be as pure as, *having regard to the source and nature of supply*, circumstances will admit."

On the Sanitary Circumstances of the Urban District of Glyncorwg, by Mr. ARNOLD ROYLE.—This report gives an account of the sanitary conditions of four Welsh colliery villages comprised in the urban district of Glyncorwg, in Glamorganshire. The total population of the district is estimated at between 5500 and 6000—a large increase upon the 1891 census population, which was 3800. The great bulk of the inhabitants are miners. Their villages are situated in valleys of a mountainous country and the houses are for the most part perched on the steep hill-sides. Newer dwellings, such as many in the rapidly growing village of Cymmer, are described as being generally well-constructed, but the insanitary conditions and surroundings of the older dwellings in this village and of most of the houses in the other three townships—Glyncorwg, Abergwynfi, and Blaengwynfi—are numerous. To begin with, the rainfall of the place is said to be between 70 and 80 inches per annum, the surface soil in the valleys is naturally damp, and the structure of the dwellings makes dampness in their interiors inevitable. Then yards are frequently unpaved, surface drains are faulty, and privy nuisances abound. There is no satisfactory system of sewers in any of the villages. Where pail closets and pit privies are in use their contents are often suffered to accumulate in the neighbourhood of dwellings with objectionable results. In some places—Abergwynfi, for example—the houses are built in rows with privies at the back to which there is no special means of approach. As a result, all privy contents have to be carried through the dwellings when cleansing the receptacles is undertaken—a proceeding which naturally encourages the occupiers to allow excreta and refuse to accumulate on their premises as long as possible. Water-supply is as a rule satisfactory. Mr. Royle found highly objectionable conditions in several cowhouses and dairies, and he deals with numerous other matters which seem to require much more vigorous action from the district council than has heretofore been the case. The difficulties of sewage disposal in the district are dealt with. One of the schemes at present favoured by the district council is to separately deal with the sewage of each village by a Ducat filter, and it seems probable that in the circumstances of the case this proposal affords a ready and satisfactory way out of a troublesome problem.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Warwickshire County District.—Dr. Bostock Hill, who is apparently retained by the Warwickshire County Council for the purpose of summarising the district annual report, states that the estimated population of the administrative county for the year 1898 was 343,303. The birth-rate was 28·3, the general death-rate 16·3, and the zymotic death-rate 1·88 per 1000 in each instance. The infantile mortality in certain districts was very high, and Dr. Hill is of opinion that the best means of improving this condition of affairs is to appoint health visitors, who will be able to teach the people in their homes some of the methods by which this tax on infant life may be reduced. As he points out, lectures delivered by suitable persons may do something, but they fail to reach that class which contributes most to the death-toll. The town of Rugby has determined even now at the eleventh hour not to adopt the notification of infectious disease and will capitulate in 1900 only because the good sense of the country has passed the "Infectious Disease (Notification) Extension Act, 1899." Having in view this prolonged obstinacy on the part of Rugby, we are not surprised to find in the next section of Dr. Hill's summary that Rugby is one of the only two urban districts in the country which possesses no general infectious hospital. River pollution is still *in statu quo* in the county, while such comments as appear in the district reports as regards vaccination do not tend to the conclusion that the new Act is producing an increase in the numbers vaccinated. Dr. Hill has, he tells us, summarised the district reports for the last ten years, and he thinks there is no doubt but that much more attention is now being given to sanitary matters than was formerly the case. Progress can, however, only be made side by side with public opinion, and he regards the dissemination of knowledge as regards sanitary matters amongst all classes of the community as the best, or at any rate the most practicable, means of advance.

Newbury Rural District.—Dr. W. T. G. Woodforde in his current report as to this district records an instance of what was apparently oyster-borne diarrhœa, one of those attacked eventually developing enteric fever. The oysters were eaten at a watering-place on the coast of Normandy on Sept. 10th. Of the three persons concerned one ate four or five oysters, another one oyster only, and the third ate but a portion of an oyster, the impression being that the oysters "did not taste quite right." The person who ate but a portion of an oyster remained well, but the other two were attacked on the following night with diarrhœa, and the person who consumed several oysters remained unwell until Oct. 10th when she developed enteric fever. There are of course many instances of this nature on record where there was either a dual infection or the enteric fever found a suitable soil in an intestine prepared by diarrhœa. Similar instances have also occurred where bathers in polluted water have been shortly afterwards attacked with diarrhœa and within the incubation period of enteric fever with that disease also.

Oldham Urban District.—In presenting his first annual report upon the health of this district Dr. James B. Wilkinson has to record the lowest annual death-rate—17·6 per 1000—ever registered in the borough; the infantile

mortality, 174 per 1000 births, was also lower than the five years' average. A remarkable outbreak of food poisoning occurred in Oldham and Chadderton during July, 1898, from the consumption of veal pies, and two dogs which ate part of the pies were also attacked. There were in all 53 cases with four deaths, and the disappointing circumstance in connexion with the occurrence is that no satisfactory light was thrown upon it. The pies were composed of veal and pigs' feet, and although Dr. Wilkinson was able to trace out the distribution of some 75 per cent. of the calf's carcass here in question no other ill effects could be discovered. The bacteriologist concerned in the investigation was of opinion that the bacillus enteritidis existed "in the flesh of the calf" and that the cooking process was insufficient to destroy it, but Dr. Wilkinson thinks that much of the evidence obtainable contra-indicates this view. Considerable additions have been made to the accommodation at the fever hospital, and Oldham is now in this respect regarded by the medical officer of health as being in the first rank of the large towns of this country. Oldham has also a separate hospital for small-pox. The chief sanitary inspector reporting upon the inspection of cattle and meat observes that many cases of the overcrowding and improper loading of cattle trucks have come under his notice. In these cases the sanitary committee have brought the matter to the notice of the officials of the Society for the Prevention of Cruelty to Animals.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6514 births and 4080 deaths were registered during the week ending Oct. 14th. The annual rate of mortality in these towns, which had decreased from 26·8 to 18·8 per 1000 in the six preceding weeks, further declined last week to 18·7. In London the rate was 18·8 per 1000, while it averaged 18·6 in the 32 provincial towns. The lowest death-rates in these towns were 11·5 in Norwich, 12·4 in Leicester, 12·8 in Halifax, and 13·2 in Derby; the highest rates were 20·9 in Hull, 21·3 in Salford, 21·9 in Manchester, and 25·5 in Liverpool. The 4080 deaths in these towns included 437 which were referred to the principal zymotic diseases, against numbers decreasing from 1918 to 535 in the seven preceding weeks; of these, 137 resulted from diarrhœa, 101 from diphtheria, 69 from "fever" (principally enteric), 49 from measles, 41 from whooping-cough, 36 from scarlet fever, and four from small-pox. No fatal case of any of these diseases occurred last week in Norwich or in Derby; in the other towns they caused the lowest death-rates in Croydon, Swansea, Huddersfield, and Newcastle, and the highest rates in Bolton, Burnley, Preston, Sheffield, and Hull. The greatest mortality from measles occurred in Hull and Birkenhead; from "fever" in Nottingham, Sunderland, and Bolton; and from diarrhœa in Cardiff, Bolton, Burnley, Preston, and Gateshead. The mortality from scarlet fever and from whooping-cough showed no marked excess in any of the large towns. The 101 deaths from diphtheria included 57 in London, 10 in Sheffield, six in Leeds, four in Portsmouth, and four in Liverpool. Four fatal cases of small-pox were registered last week in Hull, but not one in any other of the 33 large towns, and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday last, Oct. 14th, was 3139, against 2758, 2886, and 3003 at the end of the three preceding weeks; 455 new cases were admitted during the week, against 364, 409, and 461 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had increased from 133 to 215 in the four preceding weeks, further rose to 275 last week, and were 29 above the corrected average. The causes of 53, or 1·3 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Salford, Leeds, and in 12 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Leicester, Nottingham, and Liverpool.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had decreased from 24·1 to 17·5 per 1000, rose again to 18·1 during the week ending Oct. 14th, but was 0·6 per 1000 below the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 16·0 in Edinburgh and 16·9 in Dundee and in Perth to 18·9 in Paisley and 19·3 in Glasgow. The 553 deaths in these towns included 31 which were referred to diarrhœa, 15 to measles, nine to whooping-cough, nine to "fever," six to scarlet fever, and three to diphtheria. In all 73 deaths resulted from these principal zymotic diseases, against numbers decreasing from 225 to 97 in the five preceding weeks. These 73 deaths were equal to an annual rate of 2·4 per 1000, which was 0·4 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of diarrhœa, which had decreased from 193 to 54 in the five preceding weeks, further declined last week to 31, of which 15 occurred in Glasgow and six in Aberdeen. The deaths from measles, which had been four and 11 in the two preceding weeks, further rose to 15 last week and included 14 in Glasgow. The fatal cases of whooping-cough, which had been five in each of the two preceding weeks, rose last week to 9, of which three occurred in Edinburgh, two in Glasgow, and 2 in Aberdeen. The deaths referred to different forms of "fever," which had been nine and 13 in the two preceding weeks, declined again to nine last week, and included five in Glasgow and two in Leith. The fatal cases of scarlet fever, which had been five and eight in the two preceding weeks, declined again last week to six, of which three occurred in Edinburgh. The three deaths from diphtheria showed a further decline from recent weekly numbers, and included two in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 67 and 61 in the two preceding weeks, rose again to 102 last week, but were 39 below the number in the corresponding period of last year. The causes of 28, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 33·3 and 29·2 per 1000 in the two preceding weeks, rose again to 33·6 during the week ending Oct. 14th. During the past four weeks the death-rate in the city has averaged 31·5 per 1000, the rate during the same period being 18·1 in London and 18·6 in Edinburgh. The 225 deaths registered in Dublin during the week under notice were 29 in excess of the number in the preceding week, and included 68 which were referred to the principal zymotic diseases, against 69 and 54 in the two preceding weeks; of these, 44 resulted from measles, 14 from diarrhœa, seven from "fever," two from scarlet fever, one from diphtheria, and not one either from small-pox or from whooping-cough. These 68 deaths were equal to an annual rate of 10·1 per 1000, the zymotic death-rate during the same period being 1·9 in London and 1·4 in Edinburgh. The deaths resulting from measles, which had increased from 23 to 32 in the three preceding weeks, further rose to 44 last week. The fatal cases of diarrhœa, which had been 27 and 16 in the two preceding weeks, further declined last week to 14. The deaths referred to different forms of "fever," which had been 11 and four in the two preceding weeks, rose again to seven last week. The 225 deaths in Dublin last week included 41 of infants under one year of age, and 30 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a decline from the numbers recorded in the preceding week. Five inquest cases and three deaths from violence were registered, and 89, or more than a third, of the deaths occurred in public institutions. The causes of 14, or nearly 5 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING SEPTEMBER, 1899.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality during September in each of the 43 sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 11·2 per 1000 of the population, estimated at 4,546,752 persons in the middle of this year. In the three preceding months the rates had been 9·3, 9·8, and 8·6 respectively. The rates were considerably below the average in St.

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING SEPTEMBER, 1899.

(Specially compiled for THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1899.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.													
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.	Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
LONDON	4,546,752	1	1701	1203	—	497	7	15	473	6	3903	11·2	—	82	24	130	83	1	68	—	794	1182	3·4	6521	18·7	217
West Districts.																										
Paddington	122,794	—	58	11	—	15	1	1	15	—	101	10·2	—	—	—	1	3	—	1	—	25	30	3·0	140	14·2	237
Kensington	177,899	—	44	31	—	14	—	—	17	—	106	8·0	—	4	1	1	2	—	1	—	12	21	1·6	206	15·5	209
Hammersmith	108,785	—	42	10	—	10	—	—	10	—	72	8·6	—	—	1	1	1	—	2	—	18	23	2·8	159	19·1	210
Fulham	130,720	—	60	38	—	11	—	1	19	—	129	12·9	—	—	4	4	1	—	4	—	37	50	5·0	210	20·9	292
Chelsea	96,721	—	32	13	—	7	1	—	4	—	57	7·7	—	1	—	—	3	—	3	—	8	15	2·0	110	14·8	177
St. George Hanover-square	80,876	—	19	5	—	7	—	—	7	—	38	6·1	—	—	—	—	—	—	—	—	6	6	1·0	64	10·3	99
Westminster	62,117	—	30	9	—	5	—	—	3	—	47	11·8	—	1	1	—	—	—	—	—	3	5	1·3	87	21·8	224
St. James Westminster	21,827	—	—	5	—	3	—	—	2	—	10	6·0	—	—	—	—	2	—	—	—	—	2	1·2	19	11·4	94
North Districts.																										
Marylebone	140,139	—	28	12	—	15	—	—	18	—	83	7·7	—	1	—	2	3	—	3	—	15	24	2·2	185	17·2	147
Hampstead	80,252	—	25	6	—	8	—	—	2	—	41	6·7	—	—	—	2	2	—	1	—	2	7	1·1	64	10·4	169
St. Pancras	244,548	—	74	50	—	18	—	—	22	1	165	8·8	—	2	1	3	9	—	5	—	52	72	3·8	348	18·6	210
Islington	348,085	—	140	91	—	31	—	4	31	3	300	11·2	—	7	—	12	9	—	4	—	65	99	3·7	489	18·3	237
Stoke Newington	35,187	—	21	—	—	2	—	—	5	—	28	10·4	—	—	—	—	—	—	2	—	3	5	1·9	43	15·9	127
Hackney	222,571	—	101	50	—	26	—	1	20	—	198	11·6	—	—	1	7	1	—	3	—	27	39	2·3	273	16·0	168
Central Districts.																										
St. Giles	37,196	—	10	3	—	1	—	—	2	—	16	5·6	—	1	—	—	—	—	—	—	7	8	2·8	42	14·7	171
St. Martin-in-the-Fields	12,142	—	3	4	—	—	—	—	—	—	7	7·5	—	—	—	—	—	—	—	—	2	2	2·1	11	11·8	267
Strand	23,016	—	5	1	—	1	—	—	3	—	10	5·7	—	2	—	1	—	—	—	—	3	6	3·4	36	20·4	162
Holborn	29,621	—	14	5	—	1	—	—	2	—	22	9·7	—	—	—	—	—	—	—	—	6	6	2·6	52	22·9	271
Clerkenwell	66,068	—	29	19	—	13	—	—	4	—	65	12·8	—	2	—	2	1	—	2	—	12	19	3·7	122	24·1	331
St. Luke	40,868	—	24	11	—	4	—	—	7	—	46	14·7	—	1	—	—	2	—	—	—	19	22	7·0	94	30·0	175
City of London	27,906	—	7	11	—	5	—	—	1	—	24	11·2	—	—	—	—	—	—	—	—	—	1	—	36	16·8	240
East Districts.																										
Shoreditch	121,071	—	52	53	—	13	—	1	25	—	144	15·5	—	1	1	10	1	—	1	—	18	32	3·4	179	19·3	170
Bethnal Green	128,938	—	65	28	—	17	—	—	26	—	132	13·3	—	2	1	4	3	—	4	—	21	35	3·6	214	21·6	188
Whitechapel	81,391	—	20	15	—	19	—	1	13	—	68	10·9	—	—	—	1	3	—	1	—	10	15	2·4	139	22·3	237
St. George-in-the-East	48,560	—	10	11	—	9	—	1	9	—	40	10·7	—	1	—	1	4	1	—	—	9	16	4·3	107	28·7	259
Limehouse	68,807	—	12	7	—	16	—	—	8	—	43	9·5	—	2	—	4	1	—	2	—	13	22	4·9	102	22·6	243
Mile End Old Town	113,161	—	36	47	—	12	—	—	14	—	109	12·6	—	—	—	5	3	—	1	—	12	31	3·6	167	19·2	241
Poplar	170,606	—	23	39	—	30	1	—	21	—	114	8·7	—	4	—	4	6	—	1	—	41	56	4·5	252	21·6	179
South Districts.																										
St. Saviour Southwark	24,207	—	17	5	—	2	—	—	3	—	27	14·5	—	3	1	—	1	—	—	—	7	12	6·5	50	26·9	230
St. George Southwark	60,536	—	40	37	—	10	1	—	7	—	95	20·5	—	2	—	6	—	—	—	—	21	29	6·2	135	29·1	335
Newington	124,168	—	51	35	—	14	—	—	15	—	113	11·9	—	5	1	4	1	—	3	—	24	38	4·0	213	22·4	234
St. Olave Southwark	11,098	—	6	5	—	2	—	—	—	—	13	15·5	—	2	—	1	—	—	1	—	—	4	4·7	25	29·4	171
Bermondsey	85,835	—	40	52	—	17	—	—	8	—	117	17·8	—	5	1	5	—	—	2	—	19	32	4·9	148	22·5	230
Rotherhithe	41,050	—	14	11	—	8	—	—	12	—	45	14·5	—	1	1	3	—	—	1	—	5	11	3·5	78	24·8	296
Lambeth	308,108	—	89	121	—	33	2	1	32	1	278	11·8	—	11	2	16	8	—	6	—	65	108	4·6	476	20·2	230
Battersea	174,996	—	49	28	—	13	—	—	18	—	108	8·0	—	5	—	2	—	—	4	—	23	34	2·5	208	15·5	193
Wandsworth	209,655	—	67	55	—	18	—	2	13	—	155	9·6	—	2	1	4	3	—	—	—	39	49	3·0	243	15·1	268
Camberwell	264,817	1	140	122	—	28	—	1	28	—	320	15·8	—	3	2	12	1	—	7	—	56	81	4·0	370	18·2	207
Greenwich	182,513	—	81	70	—	15	1	1	23	1	192	13·7	—	6	1	4	5	—	1	—	35	50	3·6	268	19·1	236
Lewisham (excluding Penge)	91,057	—	45	35	—	9	—	—	3	—	92	13·2	—	—	—	3	—	—	1	—	20	24	3·4	119	17·0	238
Woolwich...	41,542	—	8	10	—	7	—	—	2	—	27	8·5	—	3	—	2	3	—	—	—	7	15	4·7	70	22·0	271
Lee	40,219	—	11	18	—	3	—	—	—	—	32	10·4	—	1	—	2	—	—	1	—	4	8	2·6	52	16·9	164
Plumstead	64,031	—	51	15	—	2	—	—	1	—	69	14·0	—	1	1	1	1	—	—	—	15	19	3·9	81	17·1	182
Port of London	—	—	—	2	—	3	—	—	—	—	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 23 cases of membranous croup.

† Including deaths from membranous croup.

George Hanover-square, St. James Westminster, Hampstead, St. Giles, and Strand; while they showed the largest excess in St. Luke, Shoreditch, St. George Southwark, St. Olave Southwark, Bermondsey, and Camberwell sanitary areas. One case of small-pox was notified in London during September in Camberwell sanitary area; but no small-pox patients were admitted into the Metropolitan Asylums Hospitals during September, and none remained under treatment at the end of the month. The prevalence of scarlet fever showed a marked increase upon that recorded in the preceding month; among the various sanitary areas this disease showed the highest proportional prevalence in Westminster, Stoke Newington, St. Luke, St. Saviour Southwark, St. George Southwark, and Plumstead. The Metropolitan Asylums Hospitals contained 2636 scarlet fever patients at the end of September, against 2372, 2602, and 2493 at the end of the three preceding months; the weekly admissions averaged 342, against 284, 293, and 244 in the three preceding months. The prevalence of diphtheria showed a slight increase upon that recorded in the preceding month; this disease was proportionally most prevalent in Shoreditch, St. George Southwark, St. Olave Southwark, Bermondsey, Camberwell, and Lee sanitary areas. There were 1479 diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of September, against 1273, 1533, and 1493 at the end of the three preceding months; the weekly admissions averaged 210, against 192, 229, and 179 in the three preceding months. The prevalence of enteric fever in London showed a marked further increase upon that recorded in recent months; among the various sanitary areas this disease showed the highest proportional prevalence in Clerkenwell, Whitechapel, Limehouse, St. Olave Southwark, Bermondsey, and Rotherhithe. The Metropolitan Asylums Hospitals contained 252 enteric fever patients at the end of September, against 105, 131, and 213 at the end of the three preceding months; the weekly admissions averaged 41, against 20, 26, and 37 in the three preceding months. Erysipelas was proportionally most prevalent in St. Luke, Shoreditch, Bethnal Green, Whitechapel, St. George-in-the-East, and Rotherhithe sanitary areas. The 15 cases of puerperal fever notified in London during September included four in Islington and two in Wandsworth sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the institutions of London having been distributed among the various sanitary areas in which the patients had previously resided. During the four weeks ending Sept. 30th the deaths of 6,521 persons belonging to London were registered, equal to an annual rate of 18·7 per 1000, against 14·8, 17·2, and 23·6 in the three preceding months. The lowest death-rates last month in the various sanitary areas were 10·3 in St. George Hanover-square, 10·4 in Hampstead, 11·4 in St. James Westminster, 11·8 in St. Martin-in-the-Fields, 14·2 in Paddington, and 14·7 in St. Giles; the highest rates were 24·8 in Rotherhithe, 26·9 in St. Saviour Southwark, 28·7 in St. George-in-the-East, 29·1 in St. George Southwark, 29·4 in St. Olave Southwark, and 30·0 in St. Luke. During the four weeks of September 1182 deaths were referred to the principal zymotic diseases in London; of these, 82 resulted from measles, 24 from scarlet fever, 130 from diphtheria, 83 from whooping-cough, one from typhus, 68 from enteric fever, 794 from diarrhœa, and not one either from small-pox, or any ill-defined form of continued fever. These 1182 deaths were equal to an annual rate of 3·4 per 1000, against 1·8, 3·3, and 6·5 in the three preceding months. No death from any of these diseases was recorded last month in the City of London; in the other sanitary areas they caused the lowest death-rates in Kensington, St. George Hanover-square, Westminster, St. James Westminster, Hampstead, and Stoke Newington; and the highest rates in Hammersmith, St. Luke, Limehouse, St. Saviour Southwark, St. George Southwark, and Bermondsey. The 82 deaths referred to measles were 10 above the corrected average number in the corresponding periods of the 10 preceding years; this disease was proportionally most fatal in Strand, St. Saviour Southwark, Newington, St. Olave Southwark, Bermondsey, and Lambeth sanitary areas. The 24 fatal cases of scarlet fever were less than one third of the corrected average number; this disease showed the highest proportional fatality in Fulham and St. Saviour Southwark sanitary areas. The 130 deaths from diphtheria were 51 below the corrected average number; among the various sanitary areas this disease was proportionally most fatal in Shoreditch, Limehouse, St. George Southwark, Bermondsey, Rotherhithe, and Lambeth. The 83 fatal cases of whooping-cough were 36 below the corrected average number; this disease showed the highest proportional fatality in St. James Westminster, St. Luke, St. George-in-the-East, and Woolwich sanitary areas. The 68 deaths referred to enteric fever were six above the corrected average number; among the various sanitary areas this disease was proportionately most fatal in Chelsea, Stoke Newington, Bethnal Green, Limehouse, and St. Olave Southwark. The 794 fatal cases of diarrhœa were 329 above the corrected average number; this disease showed the highest proportional fatality in Fulham, St. Luke, Poplar, St. Saviour Southwark, St. George Southwark, and Plumstead sanitary areas. In conclusion, it may be stated that the aggregate mortality in London during September from these principal zymotic diseases was more than 20 per cent. above the average.

Infant mortality in London last month, measured by the proportion of deaths of children under one year of age to births registered, was equal to 217 per 1000. Among the various sanitary areas the lowest rates of infant mortality were recorded in St. George Hanover-square, St. James Westminster, Marylebone, Stoke Newington, Strand, and Lee; and the highest rates in Fulham, Holborn, Clerkenwell, St. George Southwark, Rotherhithe, and Woolwich sanitary areas.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are announced:—Staff Surgeons: P. B. Handyside to the *Warspite* for Esquimalt Hospital. Surgeons: H. W. G. Green to the *Vivid* for Plymouth Hospital; S. H. Facey to the *Hibernia*, for Malta Yard and Hospital; and T. W. Philip to the *Jackal*.

ROYAL ARMY MEDICAL CORPS.

Colonel W. F. Stevenson, Professor of Military Surgery in the Army Medical School, Netley, is under orders for South Africa, where he will hold the post of Principal Medical Officer on the line of communication. He will probably leave England to-day (Saturday). Dr. S. J. Beringer, having reported his arrival at the Royal Victoria Hospital, Netley, for temporary duty during the war in South Africa, is posted to the charge of the staff and families. Major C. H. Burtchaell, who has for some time been attached to the Herbert Hospital, Woolwich, will proceed in the *Moor* for hospital duty in South Africa at the front. Captain Henry A. De Lom, half-pay, is placed on retired pay.

The undermentioned appointments to the Staff for service in South Africa have been gazetted:—Surgeon-General W. D. Wilson to be Principal Medical Officer. To be Medical Officers: Major W. G. A. Bedford, Royal Army Medical Corps; Captain M. L. Hughes, Royal Army Medical Corps. 1st Division: Colonel E. Townsend, Royal Army Medical Corps, to be Principal Medical Officer; Major C. H. Burtchaell, Royal Army Medical Corps, to be Medical Officer. 2nd Division: Colonel T. J. Gallwey, C.B., Royal Army Medical Corps, to be Principal Medical Officer: Major W. Babtie, C.M.G., Royal Army Medical Corps, to be Medical Officer. 3rd Division: Lieutenant-Colonel J. D. Edge, Royal Army Medical Corps, to be Principal Medical Officer: Major G. E. Twiss, Royal Army Medical Corps, to be Medical Officer. Cavalry Division: Lieutenant-Colonel W. Donovan, Royal Army Medical Corps, to be Principal Medical Officer; Major H. G. Hathaway, Royal Army Medical Corps, to be Medical Officer.

INDIA AND THE INDIAN MEDICAL SERVICES.

Her Majesty has approved of the following promotions among officers of the Indian Medical Service:—Lieutenants to be Captains: *Bengal Establishment:* Herbert James Walton, Hugh Ainsworth, Albert Edwin Hayward Pinch, and John Stewart Stevenson. *Madras Establishment:* John Wolfran Cornwall, Alfred Miller, Frederick Arthur Lucas Hammond, Henry Robert Brown, Walter Guyon Richards, Sydney Price James, Archibald Nicol Fleming, Peter Dee,

Felix Oswald Newton Mell, Frank Dennis Browne, and Maxwell Dick. *Bombay Establishment:* Frank Addinsell Smith. Major Arthur George Edward Newland, Madras Establishment, has retired.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major David Thomson resigns his commission.

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion the King's Own (Yorkshire Light Infantry): Surgeon-Lieutenant W. K. Clayton to be Captain.

ARMY MEDICAL SCHOOL, NETLEY, SEVENTY-NINTH (OR WINTER) SESSION, 1899–1900.

The following is a list of nominated surgeons-on-probation for the Royal Army Medical Corps:—A. H. Safford, L.S.A. Lond., King's College Hospital; A. F. Carlyon, L.S.A. Lond., Middlesex Hospital; C. R. Evans, M.R.C.S. Eng., L.R.C.P. Lond., Guy's Hospital; C. S. Cato, M.R.C.S. Eng., L.R.C.P. Lond., Westminster Hospital; J. A. Hartigan, M.B., B.S. Durh., Newcastle-on-Tyne; H. C. R. Hime, M.B., B Ch., Victoria University, Leeds Medical School; J. F. Martin, M.B., Ch.B. Edinburgh; J. M. Buist, M.B., B.Ch., Edinburgh; F. H. Merry, M.B., B.Ch., Edinburgh; W. C. Croly, L.R.C.S., L.R.C.P., Royal College of Surgeons, Dublin; E. McDonnell, M.B., B.Ch., Royal University, Ireland; A. M. McLoughlin, M.B., B.Ch., Dublin University; A. J. M. Cuddon-Fletcher, M.R.C.S. Eng., L.R.C.P. Lond., St. Bartholomew's Hospital; R. L. Davies, L.R.C.S., L.R.C.P., Royal College of Surgeons, Dublin.

THE DESPATCH OF TROOPS FROM INDIA TO SOUTH AFRICA.

The arrangements connected with the mobilisation and despatch of British troops from India to South Africa, according to the *Times of India*, appear to have been well conceived and admirably carried out. When the orders for embarkation and despatch were given by army headquarters everything was in working order. The system followed was part of a new and revised scheme. Native troops will not be used in the South African campaign. All the rifle ammunition embarked at Calcutta was of the type known as Mark 2—the Lee-Metford bullet with hardened nose—not the Dum-Dum bullet. The P. and O. steamer *Sutlej* has been engaged to act as a hospital ship to remain at Durban after discharging her military passengers. Two hospital ships, each capable of accommodating 500 beds, are to be employed by the Indian Government, but the second has not yet been taken up.

DEATHS IN THE SERVICES.

Surgeon-Major Edward Young Kellett (retired list), A.M.S., at Southsea on Oct. 8th, aged 68 years. He joined the army in 1854; became surgeon-major in 1865, and retired in 1880. He served in the Crimea, including the siege and fall of Sebastopol, and was in medical charge of detachments from Balaclava that took part in the battle of Oct. 25th, 1854. He was in medical charge of the Russian wounded prisoners after Inkerman, and of the general field and cholera hospitals of the 3rd division (medal with two clasps and Turkish medal). He also served in the New Zealand war in 1863–65, and was in medical charge of the 14th regiment at the battle of Rangiriri (mentioned in despatches, medal).

A new dhooli designed by Major A. G. Kay, R.A.M.C., for the easy and rapid transport of wounded in hill warfare, is now under the consideration of the army medical authorities.

UNIVERSITY COLLEGE, BRISTOL.—On Oct. 12th Mr. Henry Hobhouse, M.P., delivered an address on "Our Higher Education and the Need for Further Organisation," in connexion with the opening of the winter session of University College, Bristol. Mr. Hobhouse, in the course of an interesting address, said that the College, which was doing an excellent work, would require much more support than it was getting from the merchants and manufacturers of Bristol if it was to be made the nucleus of another Victoria University. Mr. P. J. Worsley, who presided, said that the College had received £5000 from the late Mr. Vincent Stuckey Lean, and £1000 from an anonymous donor; he added that the council had decided to erect a new wing which would contain a library, a large hall, and additional class-rooms.

Correspondence.

"Audi alteram partem."

THE PRINCE OF WALES'S HOSPITAL FUND FOR LONDON.

To the Editors of THE LANCET.

SIRS,—In the report of a conference recently convened of the Hospital Reform Association the chairman, Dr. W. Knowsley Sibley, is reported to have said, "He was sorry that the managers of the Prince of Wales's Fund were rather adverse from inquiry, maintaining that their functions were purely administrative. He believed the Fund would become much more popular if its managers followed the example of the managers of the Hospital Sunday Fund and gave preference to the hospitals who adopted the inquiry system." We should be glad if you would kindly permit us to correct this. The visitors of each hospital specially report, not only whether any attempt is made to ascertain the social circumstances of the in-patients, but also whether there is an almoner or inquiry officer for the out-patients. The distribution committee carefully consider the reports of the visitors and allocate their awards after reviewing all matters connected with the hospital, including the question of inquiry.

We are, Sirs, yours faithfully,

S. CROSSLEY,
J. G. CRAGGS, } Honorary Secretaries.

Bank of England, E.C., Oct. 14th, 1899.

THE RARITY OF CANCER IN CONVICT PRISONS.

To the Editors of THE LANCET.

SIRS,—I have elsewhere referred to the rarity of cancer in prisons and workhouses, where but little animal food is allowed and hard work is exacted.

The reports of the Commissioners of Prisons for the years 1897 and 1898, which I have lately had the opportunity of seeing, contain data which strongly support this view. Thus, of 5915 convicts only three died from malignant disease, or 1 in 1971. The details are as follows:—

		No. of convicts.	Deaths from malignant disease.	Ratio.
1897	Males	2887	2	1 in 1443
	Females	202	*Nil*	—
		3089	2	1 in 1543
1898	Males	2660	1	1 in 2660
	Females	166	*Nil*	—
		2826	1	1 in 2826

Of 5547 male convicts only three died from malignant disease, or 1 in 1849; and of 368 female convicts there was not a single death from this disease. These convicts were of all ages above 20 years, hardly any being under that age.

Dr. Tatham, Superintendent of Statistics, General Register Office, has kindly supplied me with figures showing the prevalence of malignant disease in the corresponding general population as follows:—

		Population above 20 years of age.	Cancer deaths above 20 years of age.	Ratio.
1897	Males	8,047,919	9,388	1 in 857
	Females	8,955,467	14,727	1 in 608
		17,003,386	24,115	1 in 705
1898	Males	8,136,478	9,747	1 in 834
	Females	9,054,010	15,106	1 in 599
		17,190,488	24,853	1 in 692

Thus, while the cancer mortality of convicts was 1 in 1971, that of the general population was 1 in 698, or nearly three times as great.

I am, Sirs, yours faithfully,

Clifton, Oct. 14th, 1899. W. ROGER WILLIAMS.

THE PREVENTION OF ALCOHOLISM.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Oct. 14th was an article by Dr. G. Archdall Reid entitled "The Temperance Fallacy." This subject was largely used as a peg on which to hang the writer's contempt for the ignorance displayed in the matter of heredity by his professional brothers. But towards the end of his lengthy communication was to be found the amazing suggestion that the chronic drunkard should be prohibited by law from procreating children. That is the climax led up to by ten closely printed columns of THE LANCET. Luckily for the labouring reader he may at this point derive some amusement from a footnote wherein Dr. Reid hugs to himself the idea that a few foolish people may label him "that most immoral man." Surely, the author is poking sly fun at us. Can he really suppose that the sexual functions of a drunkard are to be controlled by a bench of magistrates? If a starving man be forbidden to eat in full view of a banquet, does he die from want of food? Supposing that such a law as Dr. Reid proposes were enacted there would follow very obvious results. Trade in so-called "preventives" would be increased; abortion mongers would wax fatter even than now; and a premium would be put upon infanticide. For my part I would suggest that a rational and radical proceeding would be the castration of all drunken men and the spaying of all drunken women.

I am, Sirs, yours faithfully,

London, Oct. 14th, 1899. SIDNEY VINES.

WHO PAYS LUNACY FEES?

To the Editors of THE LANCET.

SIRS,—Can you give me any information on the following? While I was professionally attending a young woman she developed signs of mania and I had eventually to sign a certificate for her removal to a public lunatic asylum as a pauper. I sent in a bill to the guardians for a guinea and am now informed by their clerk that as I was attending the case as a private practitioner they cannot admit their liability. The clerk further states that the district medical officers are contracted with to certify pauper lunatics at a charge of 10*s.* 6*d.* The point I wish to clear up is, Have I any claim against the guardians or not? I may say that on a former occasion I sent in a bill for a guinea for similar services and received 10*s.* 6*d.*, with an intimation that the guardians considered that sufficient for a lunacy certificate. Trusting you will be able to clear up this matter,

I am, Sirs, yours faithfully,

Oct. 11th, 1899. M.R.C.S., L.R.C.P.

*** Our correspondent should have arranged for his fee at first. He is now not only late in action but applying to the wrong parties for payment. Fees for the signing of certificates for pauper lunatics take the form of an order to pay made by the justices of the peace on the guardians. In possession of such an order the medical man is independent of the guardians who must pay the sum named—sometimes one guinea, sometimes two guineas, but never, we believe, less than one guinea. The point that the medical man was attending the case as a private practitioner has no significance whatever, and the clerk to the guardians quoted by our correspondent seems to be more than usually ignorant of the Lunacy Act. The subject of lunacy is apt to be a sore one with the guardians who are unable to understand how a medical man can expect to earn such an enormous sum as 21*s.* by "just putting his name to a piece of paper." The Lunacy Act is quite clear on the point and when the order is signed by the magistrate the guardians must pay. The relieving officer should have on him a supply of order forms for the medical man's fee and the order should be made out at the same time as the other papers necessary to the certification of the patient as a lunatic are signed. All medical men should see that the order for their fee is made out at this time and should mention the matter to the relieving officer or to the justices so that future trouble may be avoided. We fear that the only remedy now available to our correspondent is to go to the justice who signed for the patient's removal to see if he can get his position rectified.—ED. L.

"THE EXPENSES OF A MEDICAL MAN'S MOTOR-CAR."

To the Editors of THE LANCET.

SIRS,—We notice that in THE LANCET of Oct. 14th, at p. 1027, you say that Dr. A. Charpentier, who has driven his car 5000 miles in the year, sets the cost of repairs down at £26. Allow us to point out to you, as manufacturers of the car in question, that this is an oversight on your part, as the £26 *include cost of running*—viz., fuel, lubricating, and wear and tear of the car. This amount of £26 includes also new chains of English make which have been found better than those we were fitting at the time Dr. Charpentier had his car and which we are now fitting free of charge, thus avoiding the possibility of this expenditure in future. It also includes new tyres, which we are also now fitting, of a new and thoroughly satisfactory pattern guaranteed to stand wear in every way.

Leaving the items of chains and tyres out it leaves only the sum of £4 for actual repairs. Taking the improved chains and tyres to last only two years—and this is certainly under the average—we must add £4 for tyres (the cost for a new pair being £8) and £2 for half of a new pair of English chains (the cost of a new pair being £4), thus bringing up the total repair and wear-and-tear account to £10. Interest on capital and licences are not taken into account, as they would have to be paid in any case, whether horse or motor is used. We give herewith the actual account as rendered by Dr. A. Charpentier, from which it will be seen that our account is strictly correct. Knowing that you are thoroughly willing to "hear both sides" on this important question is our only apology for thus troubling you and begging the necessary space in your valuable paper to explain matters which otherwise might be well misunderstood to our discredit.

We are, Sirs, yours obediently,

INTERNATIONAL MOTOR CAR COMPANY

Kilburn, N.W., Oct. 18th. (F. O. SEYD, Manager).

The cost works out as follows for a year:—

	£	s.	d.
Interest on £180	8	2	0
Licence...	2	2	0
Petrol	6	10	0
Lubricating oil (seven gallons)	0	10	0
Solid grease (20 lbs.) ...	0	16	0
Recharging batteries ...	0	10	0

	£	s.	d.
New sprocket wheels ...	1	0	0
One pair chains...	5	5	0
General small repairs ...	3	0	0
Connolly's tyres (half) ...	4	4	0
Brampton's chains and wheels (half)	5	0	0
Total	36	19	0

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Indian Medical Service.—Inoculation for Dysentery.—The Progress of the Plague.—Vaccination in Bengal.—The Pay of the Special Plague Medical Officers.

THE annual Indian Medical Service dinner was taken advantage of by Surgeon-General Harvey, I.M.S., to refer to the difficulties which the medical service had experienced from war and plague during the past few years and to show, though short-handed, how excellently it had performed its work. There is a prospect of having a new alienist department and a new bacteriological department. Surgeon-General Harvey stated that under the improved arrangements by which the great jails are now manned by medical officers, the health of prisoners has enormously improved. It is proposed also to create a chemical department to be available for the advantage and convenience of commerce and medico-legal work. He referred also to the magnificent new hospital in course of erection in Calcutta, and to new buildings in connexion with the Medical College. He repudiated the suggestion that the service had become unpopular, and said that the marks showed that there was no falling off in the quality of successful candidates.

The *Japan Mail* reports that Dr. Kitasato has conclusively established the efficiency of his method of inoculation in the treatment of dysentery. As the result of 50 or 60

cases only one terminated fatally. Inoculation must be resorted to speedily after the symptoms of dysentery set in.

Since the plague has been in India the measures adopted have fluctuated from extreme severity to inanimate mildness. It is stated that at Nagpore in consequence of there appearing to be no probability of the precautions which had hitherto been observed proving effectual, the Chief Commissioner had directed extensive modification in the rules. Now it is notified that no plague patient should in future be removed to a plague hospital without his consent, that no person who had been in contact with a plague case should be removed to a segregation camp against his will, and that such person might continue to reside in an infected dwelling if he preferred to do so. Week by week the number of deaths from plague in India is gradually creeping up. A further advance was made last week, and 4977 deaths were recorded. The increase is entirely in the Bombay Presidency, where alone 4506 deaths occurred, Poona contributing 607. The decline of the outbreak in Poona is characterised by the comparatively large number of Europeans attacked. Several cases have occurred lately in quite the fashionable parts of Poona and numerous cases have been discovered in the servants' quarters. The daughter of Major-General Burnett, commanding the Poona Station, has succumbed to the disease, as also has the daughter of Major Windle, R.A.M.C. At Hyderabad, Sind, plague shows no signs of abatement, although the daily number of cases is under 20. In Calcutta also there is an almost regular record of from nine to 12 deaths day after day. In this city the only measures which have been adopted during the whole of the present outbreak (and current year) are the disinfection of every place where a death from plague is supposed to have occurred. These mild operations provoke little or no opposition, whereas anything stronger in the way of compulsion only leads to concealment. Perhaps this is the best course to pursue in India, after all.

An innovation in the operation of vaccination for small-pox has been practised in Bengal during the past year. The six-puncture system has been introduced and the decrease in the number vaccinated is perhaps explained by this change. It is thought that the plague scare has contributed to the decrease, but it is much more likely that the extra two points have been objected to. In some places it is said that they were looked upon as in some way connected with plague inoculation. In Calcutta alone the decrease was 12,704 in the number of operations. It is difficult to see on what reasonable grounds these changes were introduced, as it has been conclusively shown that four points when followed by an average success in "takings" afford a very high degree of protection. The multiplication of points is much more likely to bring the operation into discredit.

Up to the present time the majority of the English practitioners who came out from England for plague duty have received pay at the rate of Rs. 500 a month (say at a rate of about £400 a year). Until recently a sufficient number was obtained on these terms, but whether the number of available men has ceased or whether dissatisfaction with the duties or with official treatment has brought about the late scarcity it is perhaps difficult to say. From inquiries I have made the unpopularity of this plague service has not been altogether with regard to the amount of pay, and although a rise of pay has induced a few to remain the majority have been glad to get away. The offer of Rs. 700 a month may attract a few more men, but the Government of India would secure all they wanted if they placed these officers on a better footing. They would certainly retain, also, some of the more experienced men if they held out prospects of permanent appointment.

Sept. 28th.

UNIVERSITY COLLEGE, LIVERPOOL.—At the annual meeting of the Governors of University College, Liverpool, held on Oct. 14th, it was resolved to apply for a supplemental charter with the view of securing fuller self-government and of increasing municipal representation upon the governing bodies of the College. It was reported by the treasurer that Mrs. George Holt, widow of one of the most generous supporters of the College, and her daughter, Miss Emma Holt, had subscribed £5000 to the physical laboratory. Recently the same ladies gave £2000 to the medical school and £3000 to the anatomical school of the College.

THE ORGANISATION OF THE PROFESSION.

A List of Medical Unions, Guilds, and Kindred Associations.—The International Congress on Medical Ethics and the Question of a National Congress.

IT is obvious that the organisation of the profession must not be limited to mere local efforts. Communications are so rapid and easy that each locality must expect competition from without. If in any district it is agreed that contract work shall not be accepted except at certain fixed terms the first and most pressing danger is that some medical man will be imported from another neighbourhood where no such agreement has been come to. Or, again, if it is found necessary to apply disciplinary measures and the concultants, acting in harmony with the general practitioners, undertake not to consult with some recalcitrant member of the profession, what is to prevent consultants being brought in from some other and outlying town? Such difficulties can only be overcome by a general understanding, a national agreement concluded so as to support local effort. But the first step towards a widespread combination is to bring the existing organisations into intimate connexion one with the other. As matters now stand, however, there is not only no such common accord, but it is not even known how many medical unions or guilds have been formed in the country for the purpose of dealing with the economical and ethical interests of the profession. Therefore, we have made an appeal to all medical men interested in this movement to send us the names and the addresses of the secretaries of all such societies with which they are acquainted. As yet the replies received have not come up to our expectations. Perhaps the appeal has not, in all cases, reached the proper quarters; in any case there is good reason to believe that many societies exist which have not yet communicated with us. It is to be hoped that they will not delay any longer in so doing. In the meanwhile we are in a position to publish at least a preliminary list. Such a list will, we hope, be of the greatest use in the work of national organisation which is the indispensable and natural complement of local organisation. Not only should the name of each society and the address of its secretary be given, but also the number of members enrolled and some other details. The most useful, however, of all such details is an indication showing what proportion of the medical men practising in the districts of each society are enrolled and pledged to observe the rules. This is the only way of estimating the fighting strength of such organisations. There are three reasons why the immediate publication of such a list is a matter of urgent necessity. First, this list is required so that the French Committee organising the official International Congress of Deontology or Medical Ethics, to be held in connexion with the Paris Universal Exhibition, may know to whom the invitations should be sent. Secondly, the Manchester Medical Guild is entertaining a proposal to hold a national English congress of such organisations and they likewise need the addresses of all the unions or guilds. Thirdly, we ourselves require these addresses so as to render this series of articles on the organisation of the profession as complete as possible and so that we may better be able to judge what centres or towns should be visited by our Special Commissioner for the purpose of investigating on the spot and describing the work which has been done.

The following, then, are the names and addresses which we have so far been able to obtain of societies constituted so as to deal with the economical and ethical interests of the medical profession:—

No. 1. *The Medical Defence Union.*—Secretary, Dr. Alfred George Bateman, 4, Trafalgar-square, London, W.C.

No. 2. *The Hospital Reform Association.*—Secretary, Mr. Thomas Garrett Horder, 32, Windsor-place, Cardiff, Wales.

No. 3. *The Eastbourne Provident Medical Association.*—Secretary, Dr. A. Harper, 7, Chiswick-place, Eastbourne. This association with one exception comprises all the medical practitioners of Eastbourne and has 30 members.

No. 4. *The East Suburban Medical Protection and Medical Ethical Society, Limited.* — Secretary, Mr. Murtaugh Houghton, York-road, Ilford, Essex. This society has its offices or headquarters at the West Ham Hospital and has 120 members.

No. 5. *The Lincoln Medical Society.*—Secretary, Dr. W. A. Carline, Lincoln. 40 members.

No. 6. *The Brighton Hospital Reform Association.*—Secretary, Dr. F. J. A. Waring, 8, Eaton-road, Hove, Brighton. 25 members.

The above six societies constitute part of the Committee of Patronage of the Paris International Congress of Deontology or Medical Ethics. The other members of this committee are Mr. Thomas Wakley and Mr. Thomas Wakley, jun., joint presidents; and Mr. Adolphe Smith, secretary, 423, Strand, London, W.C.; Sir William Thomson, Dublin; Sir Thomas Grainger Stewart, Edinburgh; Dr. Morgan Dockrell, London; Dr. W. Whitla, Belfast; Dr. Kinkead, Galway; Dr. N. J. Hobart, Cork; and Dr. F. Ogston, Dunedin, New Zealand. Other societies and prominent medical men would doubtless have also lent their aid to form this Committee of Patronage and to forward the interests of the forthcoming international congress had a list of existing organisations such as we are now endeavouring to draw up been in existence. But those societies that have not been invited to lend their aid must take the will for the deed. If in England we are ignorant of their existence they can scarcely expect to be known on the continent. We now continue the list.

No. 7. *The Manchester Medical Guild.*—Secretary, Dr. A. Stewart, 12, Eccles Old-road, Pendleton, Manchester. 200 members.

No. 8. *The Wigan Medical Guild.*—Secretary, Mr. Roocroft, Wigan. 75 members; this, with but two exceptions, comprises all the practitioners of the district.

No. 9. *The Colliery Surgeons' Association.*—Secretary, Mr. J. H. Marsh, Little Hulton, near Bolton. This association has about 100 members and includes all the colliery surgeons of the Bolton and District coalfields excepting one surgeon imported by the accident club against which a strike has been organised.

No. 10. *The Stockport Medical Society and the Stockport Provident Medical Guild.*—Secretary, Mr. B. W. Housman, The Elms, Edgeley, Stockport. 40 members. There is only one local practitioner not enrolled.

No. 11. *The Ashton-under-Lyne and District Medical Society.*—Secretary, Dr. S. Crawshaw, Trafalgar-square, Ashton, near Manchester. 42 members, comprising all the local practitioners.

No. 12. *The Nottingham and District Medical Union.*—Secretary, Dr. A. W. Peskett, College-street, Nottingham. Two-thirds of the practitioners of this district are in union and there are in all 120 members.

No. 13. *The Coventry Public Medical Service.*—Secretary, Dr. W. Richardson Rice, Gosford-green, Coventry. Started in opposition to the Coventry Provident Dispensary which has a lay committee employing six medical men. It has 22 members.

No. 14. *The Weston-super-Mare Provident Medical Association.*—Secretary, Dr. C. P. Crouch, Sea Front, Royal-terrace, Weston-super-Mare. 20 members, comprising nearly all the local practitioners.

No. 15. *The County of Durham Medical Union.*—President, Dr. Edward Jepson, 42, Old Elvet, Durham. (See next page)

No. 16. *The Small Heath Medical Provident Club.*—Secretary, Dr. W. J. Notley, Small Heath, Birmingham. (Details wanted.)

No. 17. *The Manchester and Salford Provident Dispensaries Medical Officers' Association.*—Secretary, Mr G. H. Broadbent, 8, Ardwick-green, Manchester. 30 members.

No. 18. *The London and Counties Medical Protection Society, Limited.*—Hon. General Secretary, Dr. Hugh Woods. Registered Office, 12, New Court, Lincoln's Inn, W.C. 1520 members.

No. 19. *The United Kingdom Police Surgeons' Association.*—Secretary, Mr. Fred. W. Lowndes, 40, Knight-street, Rodney-street, Liverpool.

No. 20. *The Cork Medical Profession Association.*—Secretary, Mr. Philip G. Leé, 25, Patrick's-hill, Cork. The profession at Cork is completely organised in one body.

No. 21. *The Poor-law Medical Officers' Association.*—Secretary, Mr. H. Greenwood, Princes' Chambers, 9, Copthall-avenue, London-wall, London, E.C. 200 members.

No. 22. *The Gateshead Medical Association.*—Secretary, Dr. Alfred Cox, Cotfield House, Gateshead. 45 members. This includes all the local practitioners with but one exception.

No. 23. *The Newcastle-on-Tyne Medical Ethical (new) Society.*—Secretary, Dr. S. M'Cracken, Newcastle-on-Tyne.

No. 24. *The South Shields Medical Practitioners Association.*—Secretary, Dr. J. H. Hunter, South Shields. 53 members.

No. 25. *The Middlesborough Medical Association.*—President, Mr. S. Walker.

No. 26. *The Battersea and Clapham Medical Service.*—Secretary, Dr. W. Carey, Gloucester House, 41, Bolingbroke-grove, Wandsworth-common, S.W. The board consists of 15 medical practitioners.

No. 27. *The Eastern Valley Medical Association.*—Secretary, Mr. A. B. Avarne, Crossfield House, Blaenavon, Monmouthshire. Members, 13 colliery surgeons.

No. 28. *The Incorporated Medical Practitioners' Association of Great Yarmouth.*—Secretary, Mr. W. E. Wyllys, 25, King-street, Great Yarmouth. Comprises every practitioner in the borough except the medical officers of the Friendly Society's Institute.

No. 29. *Beckenham and Penge Medical Society.*—Secretary, Mr. C. S. Woodd, Ashburton House, Penge, S.E. From 30 to 40 members.

No. 30. *The South-West London Medical Society.*—President, Mr. W. G. Dickinson, Elm Bank, West-hill, Putney-heath, S.W. Medical reform and ethics have a prominent place in the programme of this society.

The above is but a preliminary and very imperfect list. Its publication will, we hope, bring us many communications from other societies. Some of these societies are already known to us, but we do not possess sufficient details to include them in the list at present. We might, for instance, have included the Portsmouth Medical Union. It was founded in 1895 and had at that date 80 members, but the secretary then appointed has left Portsmouth. We have not yet heard who has taken his place or how the union stands to-day. Then a Provident Medical Association was formed at Bexhill-on-Sea in October, 1895, after the model of the similar association existing close at hand at Eastbourne, but we have not yet heard who is the present secretary or how this association has prospered. At Hull a Medical Ethical Society was founded in 1889 and about 90 per cent. of the local practitioners belonged to it, but as an ethical society it was not successful and ultimately it became the Hull Medical Society. In 1895 it numbered 85 members out of about 100 local practitioners, but was weak-kneed in dealing with economical questions, and we should like to know whether any new life has been infused into this organisation of late. At Folkestone a Provident Medical Association was founded by the Folkestone Medical Society in December, 1895. At Wolverhampton a District Medical Society was formed in 1894 which proposed to deal with economic questions. Dr. Deanesly, 4, Waterloo-road, Wolverhampton, is its secretary and there are 30 members, but it is at present passing through a period of apathy from which it should be awakened by the example of activity shown in so many other towns. The Leicester Medical Society took the initiative of forming a medical union in the spring of 1896, but there was some backsliding and we fear that this union never attained a very strong position. At Walsall Mr. Willmore took the initiative and endeavoured to form a medical union in 1896. We have not, however, heard anything further of the progress of this society. In Sheffield also a similar society was to have been constituted. The Leeds and West Riding Medico-Chirurgical Society is a very large body, for it has some 300 members, but it was no easy matter to persuade this body to deal energetically with ethical and economical questions. Indeed, in this latter respect the large commercial and manufacturing centres—Leeds, Liverpool, Birmingham, and Glasgow—are the most difficult to move. Then there is the Bradford and West Riding Medical Union where greater activity is shown than at Leeds. The Southampton Medical Society took up the question of hospital abuse and the Newbury and District Medical Society showed some activity in regard to the battle of the clubs, while the Rochdale and District Medical Society made very energetic protests against the Midwives Bill in 1897. The British Postal Medical Officers' Association (general secretary, Dr. R. R. Giddings, Nottingham) may perhaps be included among the organisations dealing with economic questions, as also the Incorporated Society of Medical Officers of Health, which has its offices at 197, High Holborn, London, W.C. Then there is also the Metropolitan Police Surgeons' Association (secretary, Mr. F. W. Spurgin, 11, Wimpole-street, London, W.).

We trust that all the societies just mentioned and also all other medical organisations which deal with economical questions and which we have omitted to mention will send

us at once the addresses of their present secretaries and the number of members whom they have enrolled. Even the very imperfect and incomplete list now given will serve to show that the organisations are sufficiently numerous to lay the basis of a national federation and to establish a common centre for intercommunication. The medical unions, guilds, and other kindred societies should govern themselves in their collective as well as in their local capacity. But at first someone must take the initiative so as to bring them all together. This, we trust, will be achieved at the Paris International Deontological or Ethical Congress, if it is not done at an earlier date by the congress which the Manchester Medical Guild proposes to convoke. As, however, the Paris Congress will take place at no very distant date—namely, from July 23rd to 28th, 1900—and as many British societies are already pledged to attend, the question arises whether it would not be wiser to postpone the Manchester Congress till after the Paris meeting. A great number of medical men have decided to go to Paris next year both for the sake of visiting the Universal Exhibition and of attending some of the scientific congresses. The French organisers have been careful to select such dates as will enable their medical guests to assist at more than one congress. Thus the International Congress of Medicine will meet from August 2nd to August 9th, that of the Medical Press from July 27th to July 29th, and the International Congress on Hygiene is to be from August 10th to August 17th. This, then, is a unique opportunity of uniting in one town a very large number of medical men; and as Paris is possibly the most beautiful and the most attractive capital in the world, and further, as there will be at that time the grandest and largest exhibition ever seen, there can be no sort of doubt but that the general desire will be to flock to Paris. With regard to the International Ethical Congress we feel convinced that, if desired, facilities will be afforded for the British section to meet separately, and that will be an excellent opportunity for bringing about a common understanding and for establishing the basis of a British federation of all medical organisations dealing with economic questions. Under these circumstances would it not be more prudent to refrain from splitting up in two different directions the energies and resources of the existing organisations? We have the utmost sympathy with the desire of the Manchester Guild to convoke a British national congress of such societies, but we would point out to them that they can scarcely hope to compete against the French Government which is giving every possible help to the International Ethical Congress, such as gratuitous printing at the National Press, reduction in railway fares, free use of Government and university buildings, State hospitality and invitations to Ministerial receptions, &c. Besides, none of the societies approve of competition and all, on the contrary, desire union. The Paris Congress was convoked by a Ministerial Decree, dated June 11th, 1898, and the full details concerning this Congress were published in these columns on May 6th last. Therefore it was first in the field and as it gives much better promise of success we would urge that the Manchester Congress would be more useful and much better attended if it was held after, and not before, the Paris meeting. In any case we shall be pleased to give our best support to both congresses, the national and the international; but we would observe that, especially in the present embryonic condition of the movement, one congress at a time is as much as can be successfully managed.

THE ORGANISATION OF THE MEDICAL PROFESSION IN DURHAM.

THE following statement with regard to the Medical Union in Durham has been sent to us for publication by a correspondent:—

"In consequence of the absurdly low scale of payment received from the miners and other workmen in the county of Durham an agitation has been quietly going on amongst the medical men who have colliery and working-class practices to find out a way to increase the charges. For the last 50 years it has been customary to contract with all classes of workmen in colliery districts to attend them at the rate of 6*d*. a fortnight. This payment was not taken from every individual, but in most cases from householders alone, the household including not only wife and family, but also in many cases two or three lodgers as well. For this pittance the doctor had to supply not only medicine, but also medical and surgical attendance, the only extra being in many cases midwifery, which was paid for, except in some few districts, at the rate of 10*s*. per case. Colliery accidents certainly are paid for by the colliery owners, who for each colliery appoint their own surgeon and pay him for attendance on accidents happening to men whilst at work, that payment being in a great number of cases ridiculously inadequate, but, as the appointment usually carries with it the privilege of having the men's subscriptions deducted from their wages at the colliery office, its value is increased. The cost not only of drugs, but of surgical appliances and dressings, and also of assistance, having increased materially during the last few years, and the education of the workmen having made it impossible for them to be 'put off' with the old methods of treatment, the payments have not been sufficient for the patients to have justice done to them, and as the miners' earnings have increased about 75 per cent. and other workmen's wages proportionately since the scale of payment was fixed it was thought to be high time for something to be done. Individual action being out of the question, a meeting of medical men was held in Durham on Dec. 8th, 1898, and was pretty well attended. An association was formed which was named 'The County of Durham Medical Union.' Dr. E. Jepson of Durham was unanimously elected president, Dr. J. F. Armstrong of South Shields vice-president, a council of twelve was formed, and Messrs. Graham and Shepherd, solicitors, of Sunderland, were appointed legal advisers and secretaries. Resolutions were carried fixing the new rate of payment to be at the increased rate of 9*d*. a fortnight per adult workman and naming a day for the increase to take place. It was also thought that as the majority of the men whom the increase affected were miners the best way to get at them was through their union, and Messrs. Graham and Shepherd were instructed to write to the Miners' Union lodge secretaries to ask them to bring the matter before the members of each lodge, when in case of the majority disagreeing a deputation would be sent from the Medical Union to discuss the question. The miners' lodges, with few exceptions, ignored the application. The next move was to appoint committees for each district, with chairman and secretary, to issue circulars signed by all the medical men in the district. In some districts this was done at once, but in others considerable difficulty was found in bringing the medical men into line, some one or two of them (usually old-established practitioners) being afraid of the miners' threats to bring in new medical men at the old rate of payment. This issuing of the circulars to the miners was the signal for war to be declared by them, and in nearly every instance where a medical man has 'stuck out' for 9*d*. new practitioners have been imported. To try to prevent men from applying for such posts as were advertised by the miners a counter-advertisement was inserted in the medical papers, and also in several local and Scotch papers, warning medical men that this struggle still continued and advising them before applying to communicate with Messrs. Graham and Shepherd. It is gratifying to hear that this advertisement was the means of preventing many medical men from applying to the miners; it is also encouraging to find that the resident practitioner has managed to retain his hold on the practice, so that although he has lost money still he is not ousted, and in every district but one where the medical men have commenced the fight all who have signed the circulars have loyally stuck together. In the one instance mentioned very strongly organised opposition was brought to bear by the men, threats to import new medical officers having apparently frightened the majority of the local members of the County of Durham Medical Union, so that two members only of the local committee are still fighting the battle. Of these two one is now fighting his second opponent. The other member of the Union, since the fight began in March, has had no less than eight medical men brought against him, the eighth being in residence now, but losing ground so rapidly that in all probability another week or two will see the end of the opposition. In one district the original medical man has now a greater number actually paying him 9*d*. a fortnight than he had when working for 6*d*. and this in spite of opposition. Some collieries just south of the Tyne consented with very little trouble to pay the increased rate, the north-western portion of the county being the seat of the most determined opposition. In South Shields the advance has already been obtained, both from the miners and from other classes of workmen formerly

paying 6*d*. In Sunderland notices have been given that the rate of 9*d*. is to commence on Jan. 1st, 1900, and also another very important item in the Union's work, the 'Battle of the Clubs,' is to begin on the same day. The friendly societies have been paying 3*s*. a head per annum, but on and after that date no member of the Union will take on a club at a lower rate than 4*s*. This is the first step in the fight against friendly societies in the county, but it is expected that all other districts will follow the example. Great activity in the work is being shown in all the towns throughout the county and several of the medical societies not formed on a purely scientific basis have become affiliated to the Union *en masse*. The fact that it is possible for miners and other bodies of men to import qualified men to undersell their brother practitioners shows the urgent need of organisation of the profession. It really seems a most deplorable thing that professional men, numbering among them many university graduates, can be found to work under a committee of working-men, to be at their beck and call, and liable to be censured by them on the slightest provocation. The General Medical Council is not sufficiently representative and the British Medical Association is too much a scientific body to take much notice of the pecuniary needs of the general practitioner, more especially of those men who are working under such conditions as to make contract work necessary. The Council of the Durham Medical Union are arranging a conference with Mr. George Brown, Dr. Glover, and Mr. Horsley, with a view to get them to help us in the General Medical Council. In the County of Durham Medical Union we are glad to have as members some of the honorary staff, both medical and surgical, of the Royal Infirmary, Newcastle-on-Tyne, the Sunderland Infirmary, the Durham County Hospital, and many other medical men who, although having no contract work themselves, are willing to do all they can to raise the status of the club practitioner, the first step being to secure for him adequate remuneration for his work, which can only be effected by working together shoulder to shoulder."

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Birmingham Clinical Board.

THE distribution of prizes to the students of the Clinical School took place on Oct. 13th. At the invitation of the chairman, Dr. T. F. Chavasse, tea was served in the board-room of the hospital, after which the prizes were awarded and an address was given by Professor John Chiene, President of the Royal College of Surgeons of Edinburgh. The address, which was essentially of a practical character, was frequently applauded by a large gathering of students and practitioners. At the conclusion Professor Chiene criticised the recent addresses given by Sir J. Crichton-Browne at Manchester and Sir William Gairdner at Mason University College, and combated the opinion that scientific study tended to materialism. Natural history, biology, and still more anatomy and physiology, as studies were calculated, he impressed upon his hearers, to increase our reverence and to have an ennobling tendency rather than to tend to upset the foundations of belief in the laws of evolution or unfolding.

Mason University College.

The recent appeal on Sept. 27th made by the Canvassing Committee resulted in a disappointment as far as the amounts received were concerned. Over 20,000 circulars to the citizens were sent out and the returns showed an average of about 2*s*. a head, while the expenses of the appeal reached 10 per cent. At a more recent meeting of the committee, held on Oct. 13th, a much more gratifying result was shown when it was announced that the sums promised amounted to £315,000. The handsome donation of £20,000 from Mr. Charles Holcroft enabled the report to be so favourable. Mason College already possesses an endowment of £200,000, so that the new university will start with somewhat over half a million. The draft Charter has been presented to the Privy Council and after it has lain upon the table of the House of Commons for 30 consecutive days another stage in progress will be reached. It is not proposed at present to spend much money on buildings but mainly to secure at first the best teaching staff possible for the objects of the new University of Birmingham.

Drink and Insanity.

The judicial sub-committee of the Watch Committee have had to deal with a singular case of official want of knowledge. A detective sergeant was summoned at the police-court for an assault of an exceptional character while under the influence of drink. The details were of an extraordinary kind, the detective representing himself as the modern Sherlock Holmes and otherwise behaving in a strange way. It was stated that the detective had been an inmate of the borough asylum three years ago. Since that time he had been performing his ordinary duties well until this episode occurred. That the committee should not have been aware of his having been a patient in the asylum is a curious fact, and an unfortunate one for the public. Having completed 18 years of police service the man is entitled to a pension, and under the circumstances of the case a resolution was adopted to allow him to retire from the force upon this allowance.

Stratford-on-Avon Hospital.

The seventy-sixth annual meeting of the governors and subscribers to this hospital was held on Oct. 9th. The report showed that the institution was in a very efficient condition. A liberal bequest of £6360, free from legacy duty, had been received from the executors of the late Mr. Edward Corbett and invested according to the rules. A recommendation had been received from the House Committee with regard to the erection of a gardener's lodge, servants' room, and cold storage accommodation at a cost of about £860. The medical report showed that the patients remaining under treatment last year were 25 and that the cases admitted during the year were 149. There had been four deaths. The number of out-patients was 331 and they had been admitted from 45 parishes. The paying patients for the past half year have added between £70 and £80 to the funds of the charity.

Exhumation of a Body.

A singular case was revealed at an inquest held at Stourbridge on Oct. 13th on the body of a railway signalman exhumed under an order from the Home Secretary. The deceased was injured in January by falling from the top of the steps of the signal-box in which he was engaged owing to the woodwork giving way. He was removed to the Guest Hospital with his spine injured and remained there until May 30th. He was then transferred to the workhouse where he died on June 1st. The man died in Staffordshire, and the coroner after opening an inquest upon the body himself met with an accident and died. The man having been buried in Worcestershire the coroner for that jurisdiction held it requisite that he must hold an inquest upon him and the body was therefore exhumed. The jury returned the following verdict:—"That death was caused accidentally by the neglect of the Great Western Railway Company in not providing a safe and proper guard round the signal-box; also that the Guest Hospital authorities did not use proper discretion in the removal of the deceased from the hospital to the workhouse; and the jury recommend that in future the hospital authorities provide an ambulance for the removal of similar cases."

Association of General Practitioners at Birmingham.

A combination of considerable interest to the profession is being organised in Birmingham at the present time. The recent proceedings with regard to the proposed consultative institution have drawn attention to the fact that there are other grievances to be remedied which materially affect the general body of the profession apart from those more directly relating to the consultants in the scheme under consideration. As a result an association is being formed to be called the Birmingham and District General Practitioners' Union. It is proposed to divide the town and neighbourhood into certain districts, each of which will appoint a president, chairman, and secretary, who in their turn will become members of the central executive. Already meetings have been held which have been largely attended, more than 100 practitioners being present at some of them and the proposals of the association have been received with enthusiasm. The objects stated to be held in view are the prevention of the exploiting of the services of medical practitioners by friendly societies against the interests of the profession for the gain of others, the reform of hospital out-patient abuse, and for mutual protection to assist in the application of an ethical code of guidance. It is alleged that grave evils exist in the influence exercised by touting in certain

clubs and friendly societies, which is distinctly inimical to the general practitioner who desires to conduct his work upon legitimately professional lines. That there are abuses in the hospital out-patient system is strongly insisted upon and flagrant instances are given of patients being attended to and operations done at those institutions upon those who could well afford to pay the general practitioner for his services. In reference to the ethical side of the complaints an interview with an active member of the organisation reveals an attitude which occasions a feeling of soreness and sense of injustice. It is stated that with the retention in many instances of the patient by the consultant and the treatment given so readily at the hospitals both the major and the minor sources of income of the general practitioner are being seriously interfered with. It is with a view to attract attention to these inroads upon practice and to seek a remedy for these and other long-standing grievances that the association hopes to effect a real and substantial benefit to the general practitioner.

Oct. 17th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Sewage: Requirements of the Local Government Board.

AT a special meeting of the Manchester Rivers Committee held on Oct. 9th a report from the Local Government Board was considered. If the details of the scheme for the treatment of the sewage and the arrangements for supervision are satisfactory the Board are willing to sanction a loan for a scheme of "double filtration in bacterial filter beds," provided that 92 acres are obtained for "the treatment of sewage by double contact." "That these filter beds shall be worked in cycles of not less than eight hours. That provision be made at Carrington and Flixton of special storm filters for dealing with storm-water sewage not dealt with by the bacterial beds, up to six times the volume of the dry weather flow, sufficient in extent for a rate of filtration not exceeding 500 gallons per square yard per diem," and that provision be made at Carrington and Flixton for the aeration of the effluent after it has passed through the bacterial beds. This report "has been received with considerable surprise and dissatisfaction," especially as to the provision of land at Carrington and Flixton and the limitation of the bacterial treatment to three cycles per day, for the present experiments show that bacteria beds may be used four times per day with satisfactory results. The report of the experts appointed some time ago by the council is expected in a few days and it is believed "that it will show beyond doubt that the requirements of the Local Government Board are unreasonable." In accordance with the promise of the Lord Mayor given at the county police court in May last a special meeting of the council will be called at an early date. The leading article in THE LANCET of Oct. 14th on "The Bacterial Treatment of Crude Sewage" is very timely and it expresses the views taken by those who have watched most closely the gradual accumulation of evidence telling in favour of the bacterial treatment of sewage. But the Local Government Board clings tenaciously to the old methods even when they are proved to be not only cumbrous but inefficient. The feeling of the Rivers Committee seemed to be in favour of accepting the suggestions and plans of the experts in preference to those of the Local Government Board, and in the last resort of proceeding under the Public Health Act so as not to require the sanction of the Local Government Board for borrowing the large sum required for carrying out the scheme.

St. Mary's Hospital.

Everyone wishes for the prosperity of the new "St. Mary's" and all join in looking for its success. No doubt the £11,000 required will be found ere long. There is ample room in Manchester for all the help that can be given to the thousands of poor women and children who are the patients of "St. Mary's" and of the Southern Hospital. The former is renewing its youth under good auspices and its future seems assured. In an annotation on the new hospital in THE LANCET of Oct. 14th the difficulties in connexion with the Lewis Trust were named and the hope was expressed that those difficulties had passed away. It may perhaps not be remembered that the offer of the trustees was withdrawn and that the present movement for the building of a new hospital has not been helped by the Trust. Into the merits of the matter it is scarcely worth while now to enter, but as a matter of fact the Lewis Trust has not benefited either St. Mary's Hospital or the Southern Hospital. The objections to the site of St. Mary's Hospital remain as they were. It is low and noisy; but sites are difficult to obtain. It is, however, in the midst of the town and easily accessible. While everyone wishes well to St. Mary's Hospital, it is permissible to hope that her younger sister, the Southern Hospital, may not be forgotten. With comparatively small means she has done work which St. Mary's Hospital was unable to reach. There is not only room, but need, for both hospitals if the sickness and poverty of the women and children of this large and ever-growing town are to be met. The Southern Hospital is in special need of help, and there can be no more touching call on the rich to give of their abundance than the sufferings of the poor women and the sad faces of the little ones so unfortunate as to have been born in the back streets and alleys of Manchester.

The Rylands Library.

Though not connected with, and only perhaps indirectly influencing, the medical profession, the opening of the Rylands Library marks an epoch in the provision of opportunities and resources which, to some extent even now and still more in the future, will entitle Manchester to feel that she is not only the metropolis of cotton but is also a centre of intellectual life. The widow of the late Mr. John Rylands, a Manchester merchant who was "diligent in business" and acquired great wealth, has used that wealth lavishly, but with great judgment and forethought, in providing such a memorial of her late husband as she considered he would desire in the best interests of Manchester. As is now well known, Mrs. Rylands purchased the famous Althorp collection of 40,000 volumes belonging to Lord Spencer, most of them intrinsically valuable, while others are valuable from their rarity, and to these she has since added 30,000 volumes more, selected with singular judgment aided by skilled advice, and has enshrined the whole in a building described as a work of genius not only in its beauty but in its adaptation to its purpose. It is, of course, a library for the student and not for that creation of modern times "the general reader." But many of our own profession are students who find the greatest solace and relief from their everyday life in exploring and following up some pathway of knowledge remote from their usual pursuits, and to these, of whom there are some in Manchester, the Rylands Library will be a priceless boon.

Oct. 17th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Glasgow Royal Infirmary.

THE names of those appointed assistants to the staff for the six months ending April 15th, 1900, are as follows:—Mr. A. J. Ballantyne, M.B., Ch.B. Glasg., Mr. Lewis M'Lachlan, M.B., C.M. Glasg., Mr. E. C. Robertson, M.B., C.M., Mr. John D. Young, M.B., Ch.B., Mr. H. C. Ferguson, M.B., Ch.B. Glasg., Mr. A. Garrow, M.B., Ch.B. Glasg., Mr. John G. Parker, L.R.C.P. Edin., Mr. James M. Inverarity, L.R.C.P. Edin., Mr. Thomas Kirkwood, M.B., C.M. Glasg., Mr. Andrew Love, M.B., Ch.B., Mr. Duncan MacGregor, L.R.C.P. Edin., &c., Mr. J. S. Ormond, M.B., C.M. Glasg., Mr. A. B. Sloan, M.B., Ch.B. Glasg., and Miss E. M. S. Walker, M.B., Ch.B.

University College, Dundee.

The winter session of University College, Dundee, was opened on Oct. 11th with an address by Professor Marshall on the Origin of Medicine. After an historical sketch of the medical knowledge of the ancient Asiatics and Greeks he said that in Dundee they had now for the first time in the history of the University a completely equipped medical school and he reminded his hearers that it would be for them in after life to give it a reputation and to make its history. Principal Mackay, who presided, then addressed the meeting. After a reference to changes which had recently taken place in the College and to the appointment of Professor Sutherland, who had come from Glasgow, he said

that the list of bursaries was much larger than before and that many students would no doubt appreciate the advantages that had been placed within their reach by generous friends of the College. The affiliation of the University of St. Andrews and University College, Dundee, had been most successful. Degrees were granted at St. Andrews in the three faculties of arts, science, and medicine. Many distinguished men had taken the old St. Andrews medical degrees, but the degrees now granted were practically new degrees and were in conformity with those of the other Scotch Universities.

Proposed New Municipal Regulations in Aberdeen.

Under the proposed consolidation Police Bill for Aberdeen, to be introduced next session, it is intended to provide that ice-cream vendors, their premises and utensils, shall come under the Contagious Diseases (Animals) Act and the Dairies, Cowsheds, and Milkshops Order. There is in Aberdeen a large colony of Italians engaged in the ice-cream and fried fish trades and there is much need for regulation of their premises.

Aberdeen Ophthalmic Institution.

During the year 1898–99 the out-patients numbered 3230, and the total number of attendances was 8898. The number of in-patients was 65. Dr. A. R. Galloway, the honorary surgeon, reports that the number during the last financial year was equal to that attending any one of the surgeons at the Moorfields Eye Hospital in London. The expenditure exceeded the income for the year by £57 odd, but in consequence of a large donation the balance of revenue carried to next account is rather over £139.

Aberdeen University Buildings Extension.

On the motion of Professor Matthew Hay, M.D. Edin., the Aberdeen University Court has by a majority of five to three adopted the following motion: "That the University Court learns with much regret that the scheme of extension which includes the restoration of Greyfriars Church has again been rejected by the town council notwithstanding the very generous offer of Mr. C. W. Mitchell, which was attached to this scheme only; and, while again renewing its opinion as to the advantages of this scheme, recognises that it is apparently no longer possible to carry it out, and accordingly remits to the representatives of the Court to again confer with the representatives of the Town Council regarding the selection of another scheme and to report." This appears to me to be a wise resolution on the part of the Court, as the town council and the citizens generally have finally made up their minds against the "restoration" of such an ugly structure as Greyfriars Church, which, moreover, occupies a most awkward site.

Oct. 17th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS)

The Isolation Hospital Question in Dublin.

THE daily papers still contain numerous letters and articles on the proposed isolation hospital for infectious diseases. The matter has been shelved for the present by the action of the corporation and Sir Charles Cameron has now suggested that the authorities should at once give a grant to the Hardwicke and Cork-street Hospitals to meet the expenses of the present epidemic. One of the ablest of those who are opposed to the isolation scheme makes a very positive statement which has not been contradicted, that "Dublin without an isolation hospital has, or had quite recently, fewer deaths from zymotic disease than London or any other English city where isolation obtains."

Poisoning by Water Parsnips.

One of the patients from the Killarney Lunatic Asylum while working out on the farm on Oct. 14th picked up a plant which grew in a small stream alongside a potato field. He ate a piece of its root and handed another piece to one of his companions who just tasted it before throwing it away. Both patients became ill and within half an hour the first died in convulsions. Dr. Griffin at the inquest read extracts from "Taylor on Poisons," from which it appeared that the root of the water parsnip is one of the most deadly of the poisons which grow wild in this country.

Mater Misericordiæ Hospital, Dublin.

The inaugural address of the medical session at this hospital will be delivered at 4.30 P.M. on Monday, Oct. 23rd, by Dr. T. More Madden, obstetric physician to the hospital.

The Overcrowding of Schools.

A deputation, consisting of the President and Vice-President of the Belfast Trades Council, attended a meeting of the Belfast Public Health Committee on Oct. 13th complaining that many national schools were rendered unhealthy for the pupils by overcrowding, and they urged that the Public Health Committee should take steps to prevent this evil and to see that the sanitary condition of the schools is satisfactory. In reply the chairman said that the Health Department had been paying special attention to the sanitary condition of the schools and the medical superintendent was at present engaged in preparing his report on the most recent examination, but the committee hesitated at imposing more than reasonable requirements on schools, the majority of which were established and carried on by the different denominations often at very great disadvantage and with limited resources.

The Ulster Hospital for Women and Children.

The nursing staff of the Ulster Hospital for Women and Children and their friends gave an amateur dramatic entertainment in the Exhibition Hall, Belfast, on Oct. 13th in aid of that institution. *A Show of Hands*, *Barbara*, and *In Honour Bound* were the dramatic sketches on the programme and in all the pieces the various parts were very well represented.

Queen's College, Belfast.

The Dunville Professor of Physiology (Dr. W. H. Thompson) will give a course of four popular lectures on "The Nervous System: its Functions and their Relation to Health," one each week, commencing on Oct. 18th. The course, which will be free and which will be well illustrated, will be given in the College.

Death of Mr. J. M. Lynn, M.D. Glasg.

Another of the oldest and most highly respected medical men of the north of Ireland has passed away in the person of Dr. J. M. Lynn of Armagh, who died on Oct. 10th, at his residence in that city, at the advanced age of 93 years. Dr. Lynn, who was born in Glasslough (co. Monaghan) in 1805, studied in Edinburgh and Glasgow and graduated M.D. of the latter University in 1834, though he qualified in 1829 as L.R.C.S. Edin. In 1831 he was appointed medical officer of the Markethill and Mountnorris Dispensary District (co. Armagh), valuable reports of which he published. Here he remained 23 years. In 1854 he was appointed surgeon to the County Armagh Militia and went to reside in Armagh, where he remained until his death. He devoted all his energies and means to the furtherance of philanthropic and religious movements; an ardent Methodist he gave of his means very largely to the various funds of that religious body, and the members of that denomination recently built a mission and lecture hall, called the Lynn Memorial Hall, to perpetuate the work done by him in connexion with their Church. Among other of his donations Dr. Lynn gave £1000 to found scholarships in the Belfast Methodist College. A great advocate of total abstinence, a man of practical religion, and a most careful and painstaking medical adviser, Dr. Lynn was very deeply respected not only in Armagh but in Ulster. He was buried on Oct. 13th in his native place, Glasslough, representatives of all classes and denominations attending his funeral.

Small-pox in Belfast.

At a meeting of the Belfast Board of Guardians, held on Oct. 10th, a letter was read from the Local Government Board requiring that full information should be forwarded regarding any cases of small-pox breaking out in the area of the union. It is satisfactory to find that on the motion of a medical guardian (Dr. N. McDonnell) a resolution was carried (with only one dissentient) instructing the medical dispensary officers of the various districts to impress upon the people the necessity of vaccination and revaccination. I am glad to be able to report that the disease is not spreading.

Opening of the Winter Session.

On Oct. 17th the winter session 1899–1900 began in Belfast at the Royal Hospital. The introductory address was given by Dr. T. S. Kirk, assistant surgeon, in the theatre, before a large audience of students and staff colleagues. After welcoming the students Dr. Kirk said he hoped that they would soon have in the New Royal Victoria Hospital an institution worthy of the Belfast Medical School.

He referred to the great loss sustained by the medical school as well as by the city of Belfast in the death of Professor Cuming, who took such a deep interest in everything that had to do with the advancement and well-being of the students. Dr. Kirk then gave a most interesting address on Aseptic Surgery, showing the enormous strides made in recent years in the healing of wounds, and advised the students to pay the greatest attention to acquiring a practical knowledge of their profession in the wards and out-patient rooms of the hospital.

A Midwife Charged with Manslaughter.

On Oct. 13th an inquest was held into the circumstances attending the death of Mrs. Margaret Mahony, aged 36 years, the wife of a farmer who had died at her residence near Cork on Oct. 11th. The coroner at the outset said that he thought it well to inform the jury why the inquest was being held, and he read a report which had been made to him by the sergeant of the Royal Irish Constabulary having charge of the case. This report included the following letter to the sergeant from Dr. Jeremiah Ryan of Cloghroe:—

DEAR SIR,—I am attending a woman named Mrs. Jerry Mahony, near Berrings Chapel. I saw her last evening (Oct. 10th), and she is likely to die, or might be dead now. She is dying from neglect or want of proper attendance after her confinement. The facts are as follows. She was confined on last Thursday night week and attended to by a quack nurse on that night. I was called in the following Wednesday—a week less a day. She was not seen by this woman since the night she was confined. When I saw her on the Wednesday she was actually rotten in the bed, and everything in the bed was rotten for the want of being looked after. I need not say it is the duty of every nurse to attend a woman after her confinement once that she is called to attend at the confinement. The woman got puerperal fever, as far as I can learn or make out, from neglect, as the confinement was natural. I think you ought go and inquire into the case and report the matter to Coroner Horgan and have an inquest, if possible. I am sure he will hold an inquest if the facts are put rightly to him. If an inquest could be held an end would be put to this damned quackery and neglect. If I find she is dead it's possible I will report to the coroner also, and also to your officer. This nurse, in my opinion, is responsible for her death.

(Signed) JEREMIAH RYAN, M.D.

On receipt of this letter the sergeant inquired into the case and found that the woman was confined, as stated by Dr. Ryan, and was attended by a woman named Mary Corkery, an untrained nurse. The nurse attended her on the night of Sept. 28th, 1899, when the woman was delivered safely. She remained with her till 6 A.M. on the morning of the 29th, when she left, "the woman being all right," and did not come back again till sent for by order of the medical man on Oct. 4th. The constable's report added details concerning the diet and movements of the woman during the last ten days of her life. Dr. Ryan in his evidence at the inquest stated that the patient's death was due to the neglect of the nurse, but qualified that statement by saying that puerperal fever sometimes occurs in cases where every attention is paid. He described the nurse as being unskilled and untrained. The coroner in his address to the jury said that a shocking state of things had been disclosed in the case and in the interest of the community a stop should be put to the practice of women like Mrs. Corkery taking money for discharging duties they knew nothing whatever about. It was a very serious business for an inefficient person to undertake a duty which often gave a skilled person enough to do. It was essential in the interest of the community of which they were all members that human life should be looked after in an emergency of the present kind. From the facts he did not see how their verdict could be other than that the deceased died from puerperal fever owing to the culpable neglect of Mrs. Mary Corkery in not attending to her. The jury brought in a verdict accordingly and the nurse was arrested and will be brought before the magistrates on a charge of manslaughter.

Oct. 17th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Anti-rabic Inoculations at the Pasteur Institute.

DURING the year 1898 there were 1465 persons who underwent the anti-rabic treatment at the Pasteur Institute. Of these four died from rabies and in one case death occurred 10 days after the conclusion of the treatment. (It is reasonable to suppose from experiments made upon dogs that the nervous system of persons who die from rabies within 15 days after the conclusion of the treatment has been invaded by the virus of rabies before the treatment could take full effect.) Two patients developed rabies during the treatment and are not counted in the series of those treated. The figures are therefore as follows: patients treated 1465, deaths three; percentage mortality 0·20. For preceding years the figures are as follows: 1886, patients 2671, deaths 25, percentage 0·94; 1887, patients 1770, deaths 14, percentage 0·79; 1888, patients 1622, deaths nine, percentage 0·55; 1889, patients 1830, deaths seven, percentage 0·38; 1890, patients 1540, deaths five, percentage 0·32; 1891, patients 1559, deaths four, percentage 0·25; 1892, patients 1790, deaths four, percentage 0·22; 1893, patients 1648, deaths six, percentage 0·36; 1894, patients 1387, deaths seven, percentage 0·50; 1895, patients 1520, deaths five, percentage 0·32; 1896, patients 1388, deaths four, percentage 0·30; and 1897, patients 1521, deaths six, percentage 0·39.

"Doctor in Pharmacy."

The High School of Pharmacy in Paris has recently given for the first time the new diploma of Doctor in Pharmacy, a diploma created some two years ago, and which, at that time, was the cause of lively protestations from the medical profession, one of the chief protesters being Professor Renaut of Lyons. Nominally the diploma was created to mark out pharmaceutists who had done advanced work as of a higher class than the pharmaceutist who kept a shop, but really it is of no use and pharmaceutical chemists themselves know this perfectly well. The mere sending in of a thesis is sufficient to obtain a diploma; such thesis must only deal with chemistry or natural science and the degree of doctor in these two sciences was already obtainable. Besides, any pharmaceutical work which could not be included under one or other of these two heads is rarely to be met with, more especially when the actual state of galenical pharmacy in France is considered. There is therefore no obvious need for the new diploma and it is evident that the end which the pharmaceutists had in view was quite another one. In France the title of "doctor" without any other indication means Doctor of Medicine—e.g., Dr. X—— is for everybody Doctor of Medicine X——. As soon as pharmaceutical chemists at the price of a thesis—easily manufactured or bought—have the right to call themselves Doctor it is quite certain that they will write, say, Dr. Z—— and not write it out at length as Doctor in Pharmacy Z——. Thus, owing to the state of the law "counter prescribing," already very common amongst us, will be regularly guaranteed in the public eye. Of course the genuine medical man could prosecute the defaulting druggist but such remedy is purely illusory. The courts are far from encouraging such prosecutions, and the fine for illegal practice of medicine is 16 francs, while that for the illegal practice of pharmacy is 500 francs and damages payable to the syndicate of pharmaceutists of the locality. Despite the protestations, of the medical profession the Council of the University has recognised the new degree and the pharmaceutists are overjoyed and declare that pharmacy is recovering from its long period of weakliness (*marasme*). The first Doctor in Pharmacy is Eymar Lacour, principal pharmaceutist of the second class in the army of the military hospital at Versailles, who sent in a thesis on an analysis of the Versailles water.

The Bacillus of Dysentery.

M. Roger, *agrégé* professor at the Faculty of Medicine and physician to the hospitals, read a paper on Oct. 7th before the Society of Biology on a bacillus which he had discovered and which he believed to be the pathogenic agent of non-tropical dysentery (*dysenterie nostras*). He obtained it easily enough in seven cases of dysentery by sowing a little intestinal mucus in bouillon and on the following day injecting 10 drops of the impure culture thus obtained into the veins of a rabbit. In less than 24 hours the animal died and on examination there was found in the blood and in the tissues an enormous quantity of bacilli. They closely resembled the bacillus anthracis but were shorter, had rounded ends, and occasionally showed a waist (*étranglement*) in the middle of their bodies. They were motile, they could be stained by Gram's method, and they grew easily in any culture medium, though they were then of smaller size than when grown in an animal. In vegetable media they grew of an oval form and looked like large micrococci. They liquefied gelatin rapidly and coagulated milk. In bouillon they grew quickly with the production of flakes of mucin and the culture gave off a very fœtid odour; in the case of bouillon mixed with glycose this odour was absent. Grown on agar they formed a thick, creamy, fœtid crust, while on gelose or gelatin they

produced numerous bubbles of gas. Pure cultures of this bacillus injected into the veins of a rabbit produced death after an interval varying according to the virulence of the dose. In acute cases the rabbit died in 24 hours with hæmorrhagic diarrhœa while numerous hæmorrhages were found in the large intestine. If the animal survived for a longer period the characteristic lesions of dysentery were found in the intestines and in one case the descending colon was covered with deep ulcers showing sharp-cut edges. The wall of the bowel around was thickened and there were deposits of lymph on the peritoneum. The bacillus had an obvious tendency to localise itself in the large intestine even when injected into the veins. It was only found in these cases of non-tropical dysentery and never in cases of choleraic diarrhœa (*diarrhée choleriforme*). M. Roger intends to continue his researches into the relations between the form of dysentery found in France and the genuine dysentery of tropical climates with a view to observing whether the bacilli of the two forms are identical.

Congresses.

During the present week two important annual congresses are sitting in Paris. The Thirteenth French Congress of Surgery meets under the presidency of Professor Poncet of Lyons. There are two subjects for discussion: "Total Abdominal Hysterectomy," to be opened by Dr. Ricard, and "Tumours of Bone," to be opened by Dr. Pollosson and Dr. Bérard (of Lyons). The other congress is the French Association of Urology, of which Professor Guyon is the president. The subject for discussion is "So-called Essential Hæmaturia." The discussion will be opened by M. Malherbe and M. Legueu.

Oct. 17th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Spondylitis a Sequel of Enteric Fever.

DR. KÖNITZER has described in the *Münchener Medicinische Wochenschrift* a case of spondylitis following enteric fever observed in the Bethanien Hospital at Stettin. The patient was a smith, 25 years of age, who fell ill in November, 1898, with fever and diarrhœa. He was attended at home by a medical man who declared the illness to be enteric fever. In February, 1899, he was able to do easy work, but pains in the back and the lower extremities prevented him from working as well as he did before his illness. On March 11th he suddenly complained of severe pains in the lumbar region so that he was unable to stand, and he was therefore admitted into the hospital. The symptoms included slight fever, pain in the lumbar portion of the vertebral column, and flexion of the femur; sensibility and the function of the bladder were normal. The patellar reflexes were increased, but they soon became less strong, and on March 30th they had entirely disappeared. The patient was unable to raise his legs and complained of severe pains radiating from the lumbar region to the femur. In a few weeks his state became better, so that on April 7th he could once more move his legs and the patellar reflexes returned. On April 12th he was able to leave his bed and to walk a few steps and the reflexes were normal. When he was discharged at the end of April he was able to walk, although his vertebral column was still somewhat rigid and painful when he tried to stoop. Cases of this kind have been already described by Professor Quinke.

Sanatoria for Children at the Seaside.

A report of the results obtained in the German seaside sanatoria has been published in the *Berliner Klinische Wochenschrift* by Professor Ewald, secretary to the Sanatoria Association. He says that in anæmia, in chlorosis, in chronic affections of the respiratory organs, and especially in scrofula, residence in a seaside sanatorium is much more efficacious than any other treatment. The good effect is due to the purity of the air, to the presence of salt in it, to its humidity and movement, and to the regularity of the temperature. The average winter temperature at a seaside place like Norderney is from 1° to 2° higher than in Berlin and Wiesbaden. The report gives detailed statistics of the Norderney sanatorium where 7561 children were received from 1889 to 1898. Of these cases 949 were tuberculous, 24 of the children suffering from pulmonary tuberculosis in an advanced stage; 8·3 per cent. were improved but 91·3 per cent. were not improved. 107 were afflicted with the fibroid form of pulmonary tuberculosis and were in a relatively good general state; of these cases 5·6 per cent. were cured, 72 per cent. were improved, and in 22·4 per cent. the symptoms remained unaltered. 112 had pleuritic adhesions; of these cases 43·7 per cent. were cured, 51·7 per cent. were improved, and 4·6 per cent. were unaltered. 265 patients had chronic bronchitis, the majority of them showing a hereditary disposition to tuberculosis; of these 45·3 per cent. were cured, 50·9 per cent. improved, and 3·7 per cent. showed no change. Of 441 patients with tuberculous affections of the bones, joints, skin, and glands, 14 per cent. were cured, 76·2 per cent. were improved, and 9·8 per cent. showed no change. Of 2384 anæmic children 47·4 per cent. were cured, 51·9 per cent. were improved, and 0·7 per cent. showed no change. Of 2341 children suffering from scrofula 26 per cent. were cured, 70·7 per cent. were improved, and 3·3 per cent. showed no change. It was observed that hæmoptysis was much less frequent than usual and that after surgical operations for tuberculous affections of the bones, joints, &c., recovery was much better at the seaside than elsewhere. Professor Ewald is of opinion that the results would be still better if the children were allowed to stay longer in the sanatorium, as is the rule in France, where there are from 70 to 80 per cent. of recoveries.

The Medical Temperance Association.

The Medical Temperance Association held its annual meeting in connexion with the congress of the Association of Naturalists and Medical Men in Munich. Professor Krapelin of Heidelberg, who was in the chair, read the first paper, the subject being the Influence of Alcohol on the Psychical Functions. He has found by experiment that alcohol has a prejudicial influence on perception; errors in calculation, for instance, were more frequent after alcoholic liquors had been taken. With regard to muscular work he pointed out that alcohol temporarily increased the muscular force, but when taken for some time it diminished it. Dr. Kolla then delivered an address on alcohol as a medicament.

The Friedrichshain Hospital.

The twenty-fifth anniversary of the Friedrichshain Hospital in Berlin was celebrated on Oct. 7th and 8th. The present and former chief and assistant physicians and surgeons and their ladies dined together in the "Norddeutsche Hof" on the evening of Oct. 7th and it was gratifying to see that many old Friedrichshain men had come from abroad for the purpose of taking part in the proceedings. Toasts were proposed by Professor Trendelenburg of Leipsic, who was chief surgeon to the hospital at the time of its foundation, by Professor Hahn, the present chief surgeon, by Professor Furbringer, and others. On the following morning the old Friedrichshain men visited the hospital and were there entertained by the present medical officers at a *Frühschoppen*. The *Deutsche Medicinische Wochenschrift* issued a special number consisting entirely of essays by former and present medical officers to the hospital. It may be said that although some of the newer hospitals of Berlin and also outside Germany are provided with some modern arrangements (electric light, for instance) there are nevertheless none of them which equal the Friedrichshain Hospital in its hygienic conditions, its beautiful gardens, its splendid and spacious wards, its heating and ventilation. Dr. F. J. Mouat was quite right in saying in his book on "Hospital Construction and Management" that "all the general hospitals of the future should be constructed strictly on the lines of the Friedrichshain."

Trachoma contracted at a Public Bath.

The majority of the patients suffering from trachoma in Berlin come from the eastern districts, especially near the Russian frontier where the disease is endemic. Recent trachoma being comparatively rare in Berlin, Dr. Settegast, an ophthalmic surgeon in the city, was naturally somewhat surprised at having lately to attend 18 cases in a month. The patients were all young men from 14 to 20 years of age and it was found that they had been in the habit of visiting a swimming bath which was so much resorted to that there were sometimes from 40 to 50 men there. It was further ascertained that some of the people connected with the place had complained of their eyes, so that very likely germs of trachoma had got into the water and had spread the disease. The medical authorities were informed and the bath was disinfected by direction of the medical officer of health.

Oct. 16th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

A Medal of Morgagni.

EARLY in the year THE LANCET[1] drew attention to the conjoint action of English and Italian medicine towards commemorating the founder of pathological anatomy, John Baptist Morgagni. The initiative taken with this view by Mr. S. G. Shattock at the instance of the teaching staff of St. Thomas's Hospital was heartily responded to by the Milanese School, represented by Dr. Soffiantini. Accordingly, a replica of the well-known bust of the pathologist by the Bolognese sculptor, Signor Salvino Salvini, after having been formally unveiled in the Ospedale Maggiore at Milan, was duly conveyed to St. Thomas's Hospital, where it now occupies a conspicuous place in the pathological theatre. The efforts of the two committees, that of London and that of Milan, have not, however, stopped there. A medal presenting on its obverse aspect a profile of Morgagni has been struck not only for the members of the English committee, of which Mr. Shattock is president, but also for those others of the profession who are in full sympathy with the Anglo-Italian movement in honour of Italy's illustrious son. It is of bronze; it has a diameter of 60 millimetres; it reproduces in profile Signor Salvino-Salvini's bust; and it bears on its reverse aspect the following inscription:—

"Inaugurandosi
In Londra
Il Busto Marmoreo
Donato dagli Italiani
Alla Scuola Medica
Dell' Ospedale San Tomaso
MDCCCXCIX."

(The marble bust given by the Italians to the medical school of St. Thomas's Hospital as inaugurated in London, 1899.) The committee, moreover, at the instance of Dr. Soffiantini, has caused a number of copies of the medal to be struck in silver for special distribution through the medium of the Italian and British Education Departments, through the Town Council of Forlì (Morgagni's birthplace), through the teaching staff of the Ospedale Maggiore of Milan, and through that of St. Thomas's Hospital. Nothing, I may add, can be more successful than this reproduction in bronze and in silver of Salvino-Salvini's *chef d'œuvre*. It is in all respects worthy of the "stabilimento" entrusted with its execution—that of Signor Johnson of Milan.

Grave Increase of Pellagra.

That pellagra—one of the seven plagues of Italy—owes its origin to defective or unsound alimentation has sometimes been denied; but it will hardly even be doubted now that the Permanent Pellagra Commission for the Province of Modena has published its report. Last year, according to that Commission, there were throughout the whole Province of Modena only 40 cases of pellagra, or "pellagrosi," as they are compendiously called. In the first half of the present year the pellagrosi put on the register of the sanitary office were 304! Nor do these figures tell the whole tale. Very many pellagrosi on the first appearance of the characteristic symptoms do not report themselves to the medical or sanitary authority; out of sheer "non-curanza" they "let matters slide." So that 304 is considerably under the total of *bonâ fide* victims to the disease. According to the report of the Commission the immense increase of pellagra in the first half of 1899 is due to its abnormal spread in the mountain districts—a part of the Modenese province hitherto free from it. To what is this due? To the failure in those uplands of the chestnut crop, the staple diet of the mountaineers. For want of the chestnut they have been driven back on the "granturco," or maize, generally unsound and (in the Modenese region) not subjected to the salutary "essiccatoio" (drying-oven) in constant use throughout the Lombardo-Venetian territory. A few months of such unfamiliar, distasteful, and eminently insanitary food have sent up the sick list of pellagrosi by leaps and bounds. Another grave feature of this visitation in the province of Modena has been the heavy proportion of victims to pellagra mania which it presents. That proportion has been 1 in 6! A prompt and peremptory order has, in consequence, been given to the provincial authorities of Modena to pay strict attention to the quality of the granturco (maize) as exposed for sale and thereafter to provide the means of depriving it, by the "essiccatoio" or otherwise, of its noxious properties. The order further includes a regular surveillance of the dwelling-houses and the water-supply of the mountain communes. If only in self-defence these communes are bound to give instant and due heed to the recommendations of the Commission as embodied in the official order. Should pellagra continue to spread in the proportions of the last half year and out of six cases to furnish one pellagrose lunatic the duty of providing asylum accommodation and treatment for this latter type of victim will weigh heavily on the all too inadequate communal exchequer.

Oct. 15th.

[1] THE LANCET, Jan. 14th, pp. 110 and 129 and Jan. 21st, p. 192.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Prison Regulations.

THIS year's regulations of the Prison Department, printed in English, contain the new diets which were devised two years ago by Dr. Wilson to try to minimise the perennial occurrence of typhus fever and relapsing fever in the jails. Since then Dr. Parker has been appointed as chief medical officer to the department and it is hoped that many hygienic reforms will be gradually introduced. Great cleanliness is insisted upon both when the prisoner first comes and during his stay. He is obliged to have a bath once a week in winter and twice weekly in summer. If the police desire it his photograph and anthropometric measurements are taken on arrival. By industry and good conduct both the light-labour and hard-labour prisoners are allowed to accumulate a number of good marks which gradually raises them from the lowest of three classes to the highest. The work gradually becomes less menial and less hard, so that in the highest class the light-labour men have to do tailoring, light garden work, weeding, and spinning wool, twine, and threads, while the convicts have in addition to work as carpenters, blacksmiths, bakers, cooks, and masons, and have the privilege of wearing lighter irons. Another change recently instituted is that prisoners who begin by communicating with their friends once every two months are allowed to do so every week when they reach the highest class. Formerly there was but little restriction placed on friends' visits and nobody much minded going to prison. Coles Pasha has introduced a scheme, which so far works well, of employing without pay for the benefit of the State men sentenced to imprisonment in default of fine. This labour is fixed at six hours a day, and includes sweeping and repairing roads, breaking stones, loading and unloading boats, watering streets, and filling up stagnant pools. The diet consists of bread, oil, meat, lentils, beans, rice, onions, fresh vegetables, salt, and flour, with three modifications for prisoners in hospital. Under the heading of "Hygiene" it is ordered that prisoners on first arrival should be placed under observation for 10 days to ensure their not introducing any infectious disease. Every case of infection occurring in a prison is to be reported at once to the principal medical officer and also to the local health officer.

The French Occupation of Egypt.

We are still celebrating the centenary of Bonaparte's expedition which was to conquer Egypt on its way to India. It was accompanied by *savants*, who since the days of Richelieu and Colbert had invariably taken part in any venture into the unknown East. Though the occupation ended abruptly in 1801, the learned men continued to edit their monumental manuscripts, which had been specially returned to them by the victorious English generals, and in 1809 the first edition of the "Description de l'Égypte" saw the light. The chief medical contributors were Larrey, Desgenettes, Savaresi, Bruant, and Rouyer. Everyone knows the many writings of the first while principal medical officer of the French armies in Europe, and it was Desgenettes, the idol of the army, who dared to rebuke Bonaparte for his treatment of the plague victims at St. Jean d'Acre. But it was not only the learned men who worked to make the expedition a scientific success. The soldiers clapped their hands when they first caught sight of the pyramids, while the *savants* hurriedly abandoned their muskets and began to copy hieroglyphics. It was General Desaix who discovered the zodiac at Denderah

Captain Malus who found the Labyrinth in the Fayoum, and another officer, Captain Brossard, who brought away the famous Rosetta Stone, now peacefully lying in the British Museum, after having accomplished its purpose of helping to teach how hieroglyphics can be read.

Public Works Report.

The report for 1898, which has been issued this week, contains for the first time sections relating to other departments besides the absorbing one of irrigation. The total Budget for the year is £1,400,000, and of this almost £1,000,000 is for the account of irrigation and new works connected with the Nile. This is in addition to the reservoirs at Assouan, which are not to cost Egypt anything for five years. The Irrigation Department is ranked among the spending ones, but it should really be considered a money-making administration, for the Finance Ministry can only collect additional land taxes if more land is brought under cultivation by new canals and dams. The principal crops of Egypt are cotton, sugar-cane, millet, wheat, barley, maize, and rice. One very noticeable fact occurred during the last year's flood. In spite of its being both high and late there was an entire absence of anxiety regarding the safety of the Nile banks, both among Government officials and among the riparian population. This was due to their general confidence in the English inspectors and to the labour expended on strengthening the banks ever since the flood of 1887. Another point for congratulation is that in 1898 only 19,000 men were called out for 100 days as the Nile *corvée*, instead of 87,000 in 1887 and 84,000 in 1892, all three years being those of high flood. The hardship is not great nowadays, for no one man was kept at his place on the banks for a longer period than 15 days. Agricultural light railways are being gradually extended and now four companies are in the field. The report of new buildings includes the opening of two hospitals, two slaughter-houses, and £15,000 for improvements to Abdeen Palace for the German Emperor who never came. Another item is £36,400 for the Tor quarantine station for providing disinfection and buildings for pilgrims returning from Mecca. The site is isolated on the eastern shore of the Red Sea and great difficulties were met with in transporting material. It is easier to provide a large sum for some much needed building than it is to maintain all the existing buildings in repair. It appears that there are in Egypt 800 public buildings representing a value of £3,000,000 sterling. By European computation 2 per cent., or £60,000, ought to be allowed for maintenance, but, as a matter of fact, there is only £16,000 available in the Budget. Among the improvements in Cairo I may mention that many of the principal streets are now macadamised with a hard basalt instead of the soft inferior limestone of the past. The Cairo Observatory has been taken away from an ignorant native and placed under the care of Captain Lyons, R.E., and it is proposed to move it shortly to Helouan to get it away from trains and electric tramways. The Geological Survey has been chiefly occupied in examining the different oases. Tantah, the third largest town in Egypt, is disappointing from the hygienic point of view. There are 70,000 people living in about 8500 houses, and lately wells were dug by an enterprising company to give them pure drinking-water. But the inhabitants prefer to get muddy, contaminated water from the canal which their ancestors have always used, and the company is financially a failure so far.

Cairo, Oct. 8th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Health of Sydney.

THE Medical Adviser of the Sydney Water and Sewerage Board has submitted to the board his report on the health of the metropolis for the quarter ending June 30th. The population had increased by 16,600 since the corresponding quarter of last year. The temperature was higher, but the extremes of heat and cold were not so great. The general death-rate was lower in the metropolis, but higher in the city proper owing to an increase in the mortality from whooping-cough, typhoid fever, cancer, and phthisis. Of 257 cases of typhoid fever only 19 occurred in houses in which the board's regulations were complied with. Dr. Kendall comments strongly on the indifference of the public with regard to sanitary requirements. He remarks: "The revelations of the inspector's reports are truly awful. Many places are provided with proper sanitary systems, but householders have failed to connect with them; cisterns broken and not provided with water, broken water connexions, cracked pans, choked drains, deficient ventilation, and dirty houses all contribute to swell the list of the causes of the virulence of the present epidemic of typhoid fever." An inquiry in 28 fatal cases showed that in 12 cases no sewers were available, in three the sewers were not connected, and in 13 the houses were insanitary. The mortality from pulmonary tuberculosis showed a decrease, but that from other forms of tuberculosis showed an increase.

Inspection of Meat in New South Wales.

At the August meeting of the New South Wales branch of the British Medical Association Dr. Ashburton Thompson read a paper on Meat Inspection in which he described the conditions prevailing in the colony at present and pointed out necessary reforms. In the whole of New South Wales there is only one public abattoir where meat is systematically inspected. The others are all in private hands but under a law which is sufficient to prevent diseased meat being sent out from them for consumption, and all are within reach of inspectors appointed to carry out the law, but from their scattered distribution, as a practical matter of fact, the inspector cannot exercise his functions systematically. To remedy this it is proposed to concentrate slaughtering at certain central points in abattoirs managed by the municipal bodies but subject to systematic inspection by trained inspectors of the Board of Health. Meat from such abattoirs must be stamped. "At the large meat export works inspection is done thoroughly and no diseased or even doubtful carcass is ever passed for export," and these establishments might use the same Government stamp.

Nurses' Association in Sydney.

The nurses in Sydney have formed an association for the registration of nurses on the lines of the Royal British Nurses' Association and with the same standards for registration, with the addition that nurses who have gone through a full course of instruction of not less than two years in hospitals of 40 beds, or of five years in a private hospital of not less that 10 beds, can be registered.

Intravenous Injection of Anti-tetanic Serum.

In the August number of the *Inter-colonial Medical Journal of Australasia* Dr. E. H. Embley records an interesting case of tetanus successfully treated by injecting anti-tetanic serum—not only hypodermically but intravenously. Dr. C. J. Martin has shown that the serum is slowly absorbed from the subcutaneous spaces and that anti-venomous serum was at no time as efficient in preventing death from snake venom when injected into a vein as when subcutaneously injected, and the same appears to hold good of anti-tetanic serum. The method is unattended by any disastrous consequences.

Sept. 8th.

THE LYMPH OF THE NATIONAL VACCINE ESTABLISHMENT.—At the meeting of the Torrington (Devon) Board of Guardians held on Oct. 7th one of the medical officers complained of the lymph supplied by the National Vaccine Establishment and said that seven vaccinations performed with this lymph were ineffectual and he had to procure other calf-lymph. The clerk said that there had been many complaints and the difficulty was that people objected to have their children revaccinated. The chairman remarked that it was a very serious matter. Eventually it was resolved that the clerk should draw the attention of the Local Government Board to the facts.—At the meeting of the Devizes Board of Guardians held on Oct. 10th the medical officers of the various districts, by request of the guardians, presented written reports as to the lymph supplied by the National Vaccine Establishment. The medical officers unanimously condemned the vaccine as unreliable. It was resolved to send copies of these reports to the Local Government Board.—At the meeting of the Cardiff Board of Guardians held on Oct. 12th complaints were made of the lymph supplied by the Local Government Board.

Obituary.

THE RIGHT REVEREND JOHN WALE HICKS, D.D., M.D. LOND. AND CAPE OF GOOD HOPE, F.R.C.P. LOND., BISHOP OF BLOEMFONTEIN.

THE death of Bishop Hicks—from causes which as yet are unknown to us in England—has deprived the sister faculties of Theology and Medicine of an honoured and valued member. John Wale Hicks was born in 1840, and studied science from an early age. He graduated as B.A. at the University of London in 1861, taking prizes in chemistry and animal physiology and honours in vegetable physiology and structural botany. In 1863 he took the degree of M.B. Lond., in 1864 that of M.D. Lond., and in 1865 became a Member of the Royal College of Physicians of London. When he was about 26 years of age he entered at Sidney-Sussex College, Cambridge, as a foundation scholar and in the year 1870 graduated as a Senior Optime in the Mathematical Tripos and in the first class of the Natural Science Tripos. In 1871 he tripled his honours by obtaining a place in the second class of the Theological Tripos. He was then made a University demonstrator in chemistry and lecturer on the same subject at his College, of which he became a Fellow in 1874. As far as his scientific work went it cannot be said that Dr. Hicks was an investigator or an original thinker. He was a most patient and admirable teacher with a full appreciation of the wants of the weaker student—a class of men whom he conscientiously and successfully helped by his lectures and demonstrations. He was admitted to Holy Orders in 1871, being licensed to the curacy of Little St. Marie's, where he remained as assistant curate for 16 years, when he was presented to the living which then became vacant. An earnest Churchman, Dr. Hicks exercised an admirable influence in the University at large and as Dean of his College, while among other offices which he filled was that of examining chaplain to the Bishop of Lincoln, Dr. King. In 1892 he was appointed to succeed Dr. Knight Bruce, whose health had broken down, as Bishop of Bloemfontein, Orange Free State, a diocese which included all Basutoland, Bechuanaland, and Griqualand, the area being about twice the size of England and Wales. Here he laboured with unremitting diligence until his death, which occurred at Maseru on Oct. 11th. He was the author of a "Text-book of Inorganic Chemistry" and of "Lectures on Church Doctrine" and other theological works.

Bishop Hicks is a loss to the Church which he loved, and to his country which can ill spare men of his sort. He was one of those unassuming men to whom it is a pleasure to be useful without being ambitious of distinction, but who, being called to high office, rise to the emergency and discharge their duties with unrelenting fervour. He was buried at Maseru, the chief city of his Basutoland province, on Oct. 14th.

JOHN THOMAS MOULD, F.R.C.S. ENG., L.S.A.

BY the death of Mr. John Thomas Mould, in his eighty-second year, the oldest practitioner in Kensington has passed away. Mr. Mould was born in 1817 at Oundle in Northamptonshire where his father was a well-known medical man. The father, however, died when the son was very young, and his widow having married the Rev. Felix Laurent, vicar of Saleby, Lincolnshire, young Mould received his early education from his step-father. His medical education was begun by his serving an apprenticeship to a practitioner in Northampton and after finishing his time as apprentice he went to London and entered at St. George's Hospital. He became a Member of the Royal College of Surgeons in 1840 and in 1856 a Fellow by examination. Soon after qualifying he settled in Brompton where he continued to practise until his death.

Mr. Mould took a deep interest in all medical charities. From the inception of the Royal Medical Benevolent College at Epsom he was a member of the council and was finally made a vice-president. Until very lately, when his health began to fail, he was chairman of the committee of the British Medical Benevolent Fund, and he was also a staunch supporter of the Society for the Relief of Widows and Orphans of Medical Men, of which society he was a vice-president. He was an earnest and enthusiastic Churchman and for 41 years he was vicar's churchwarden at Brompton Church and at his retirement received a handsome illuminated testimonial for his services. He was also for many years treasurer to the Brompton parochial schools and took an active part in the Kensington Vestry. At the commencement of the Volunteer movement Mr. Mould became an efficient member of the 2nd Middlesex Rifle Volunteers and took part in most of the early field-days at Brighton and elsewhere; he was also interested in the British Archæological Society, of which he was a member, and attended most of the annual meetings in various localities. He never gave up his interest in St. George's Hospital, of which he became a life governor and member of the house committee, in which capacity he rendered for many years many important services. He married a daughter of Mr. R. Gray, a medical practitioner of Brompton-row, who survives him and by whom he leaves a son and four daughters. Mr. Mould's death will be greatly felt by a large number of friends and acquaintances, for although most of his contemporaries had predeceased him he was ever ready to hold out a helping hand to practitioners of a younger generation. For the last four years of his life he lived altogether in retirement, so that the news of his death was not altogether unexpected.

WALTER GARSTANG, M.D. ST. AND., M.R.C.P. LOND., F.R.C.S. EDIN.

DR. WALTER GARSTANG, who died on Oct. 12th at his residence, Spring-Well House, Blackburn, aged 67 years, was one of the best-known medical men in East Lancashire. A native of Blackburn, he studied medicine at Glasgow and in 1859 took the diplomas of M.D. St. And., L.R.C.P. Edin., and L.M. To these qualifications he added those of L.R.C.P. Lond. in 1862 F.R.C.S. Edin. in 1864, and M.R.C.P. Lond. in 1871. Dr. Garstang was formerly physician to the Blackburn and East Lancashire Infirmary and was the first President of the Blackburn and District Medical Society. He was the author of several works on controversial religious subjects, including "The Eastward Posture"; "A New English Text of the Book of Joel," 1878; "A New Version of the Sacred Eclogue (Song of Songs)," 1882; "My Heart's Fruit-Garden, or Qoheleth (misnamed 'The Preacher'), translated into English," 1886; "Dædalus and Cupid," and other Poems, 1892; and "The British Worker," a poem, third edition, 1894. The *Blackburn Standard* of Oct. 14th says that when on a certain occasion in 1879 Mr. Gladstone made use of a Hebrew quotation and his interpretation was challenged, Dr. Garstang was able to prove that it was correct. A custom in which Dr. Garstang took considerable interest was the "pancake bell," and for years he rang the bell at the Blackburn parish church on Shrove Tuesday.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Biesenthal of Berlin, who was in early life a very successful theological student. He afterwards turned his attention to medicine and is well known by his papers on Gout and its Treatment by Piperazin. He was 53 years of age.—Dr. Theodor Puschmann, Professor of the History of Medicine in Vienna. He was born in 1844 in Loewenberg and after qualifying in medicine practised for a time in Cairo and afterwards in Munich and Leipsic. His chief work was a History of Medical Education from the Earliest Times to the Present.—Dr. Gerhard Westfeld, Physician to the Queen of Sweden. He was born in 1828 and studied at the University of Upsala, his studies being spread over a number of years as he was acting as private tutor at the time. He was greatly interested in the temperance question and he wrote a great deal on the spread of alcoholism in Sweden.—Dr. Ludwig Kirn, Extraordinary Professor of Psychiatry in Freiburg (Baden), had been missing for several months, but recently his body has been found in Switzerland under circumstances which pointed to accident as the cause of death. He was 60 years of age.—Dr. Adickes of Hanover, who has been very energetic in the recommendation and distribution of calf lymph in Hanover, Schleswig-Holstein, Waldeck, and Bremen, met with an accident which proved fatal last month.—Dr. Hermann Blaschko of Berlin (father of Dr. A. Blaschko, the dermatologist) has died at the age of

74 years. He made a serious experimental study of hygienic matters at a time when sanitation was not officially recognised as a teaching subject. Among his more important works may be mentioned one on the Effect of the Sewing-machine on Women and others on the Treatment and Management of Diphtheria.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.

The following gentlemen passed the Second Examination of the Board in the subjects indicated:—

Monday, Oct. 9th:

Anatomy and Physiology.—Hedley Gascoyne Daft and Leonard Daft, School of Medicine, Sheffield; Harold Round, John Wells, Henry William Plant, and William Henry Flint, Mason University College, Birmingham; Matthew Thomas Ascough, Charles Wesley Forsyth, Albert Edward Bird, and Charles William Turner, Owens College, Manchester; John Jenkins, University College, Cardiff; Guy Witton Miller and Herbert James Slade, St. Bartholomew's Hospital; James Scott Paton, Melbourne University and Surgeon's Hall, Edinburgh; Thomas Henry Bishop, Edinburgh University; William Herbert Neil, University College, London; Gustave Felix Guillard de Laubenque, Middlesex Hospital.

Anatomy only.—James Ewing, Yorkshire College, Leeds; Ernest John Hamilton Bowen, University College, Cardiff, and Mr. Cooke's School of Anatomy and Physiology; Graham Lionel John Wilson, St. George's Hospital.

16 gentlemen were referred in both subjects and four in Physiology only.

Tuesday, Oct. 10th:

Anatomy and Physiology.—Frederick Denis Parbury, John Mackay Plews, Edmund Octavius Hughes, George Charles Johnston Acres, Trevor Hayman Fowler, and Reginald Janson Hanbury, St. Bartholomew's Hospital; Robert Bolton Coare, Cambridge University and St Bartholomew's Hospital; Alfred James Urquhart, Philip William Hamond, William Collins Lewis, John Brightman Copland, and Charles Eastty Bartlett, Guy's Hospital; Hastings Footman Everett, Gerald Fitzgerald Rudkin, and Thomas Edmund Blunt, London Hospital; George Bartley McKean, University College, London; Palmer Devoy Ramsay, St. Mary's Hospital; Thomas Richards, University College, Cardiff, and Mr. Cooke's School of Anatomy and Physiology; Rowland Stevens Wyckham FitzHenry and Edward Reginald Griffiths, Middlesex Hospital; Henry George Keith Young, Cambridge University, and Middlesex Hospital; John Robert Lloyd Woods, St. Thomas's Hospital; Mervyn Eager, King's College, London; and John Cecil Openshaw Bradbury, Cambridge University and Mr. Cooke's School of Anatomy and Physiology.

12 gentlemen were referred in both subjects.

Wednesday, Oct. 11th:

Anatomy and Physiology.—Francis Baldwin Pinniger, Harry Macgregor Newport, and Frederick Cock, Charing cross Hospital; Thomas Walter Jeffery, Harman John Howland Graves, and George Brocklesby Davis, London Hospital; Henry Bailey Mylvaganan, Ceylon and London Hospital; John Howard Le Bouverie Page, Francis Courtnay Lambert, and Edward Elie Naggiar, St. Mary's Hospital; Charles Battle, Rowland Harley Bridges, and Godfrey Holland Latham, St. Thomas's Hospital; Charles Noel Davis and Reginald Cameron Wilmot, St. Bartholomew's Hospital; Courtney Llewellyn Medwill, Cambridge University and St. Bartholomew's Hospital; Charles John Blasson, Farquhar Mackenzie Matheson, and Otto William Axel Lowe, University College, London; Alfred William Iredell, Allen Pledger Piggot, Harvey Llewellyn Shelton, and Clarence Hamul Denyer, Guy's Hospital; Charles James Pinching, Oxford University and Guy's Hospital; Ratanji Mancherji Nanji, Grant Medical College, Bombay; and Adolf Andreas Christian Moller, Newcastle-on-Tyne and Mr. Cooke's School of Anatomy and Physiology.

10 gentlemen were referred in both subjects.

UNIVERSITY OF GLASGOW.

The following have passed the First Professional Examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (B., Botany; Z., Zoology; P., Physics; and C., Chemistry):—

Robert Adam (B., P.), Scott Campbell Adam (B., P.), Archibald Craig Amy (P.), Henry Graeme Anderson (B.,* P.), John William Arthur (B., Z., P., C.), John Bain (Z., P.), Thomas Bennett (Z., C.), Archibald Grainger Bisset (Z., P.), David Blackley (B.), Alexander Blair (B., Z., P., C.), William Thomas Bolton (B., P.), Robert George Bradford (B., C.), Thomas Brodie (P.), Carl Hamilton Browning (B., P.*), Robert Harold Campbell (C.), Thomas Murdoch Campbell, M.A. (B., C.), Alexander Erskine Clark (B., Z., C.), Andrew Connal (B.), Thomas Goodall Copestake (C.), William Smith Craig (B., P.), John Cross (C.), Weir Burns Cunningham (B., P.), David Dickie (B.), Thomas Thornton Macklin Dishington (B., P.), David Garfield Dykes (B., P.), James Eadie (B., P.), Cunison Chas. Finlator (B., P.), James Forsyth (B., Z., P., C.), William White George (P., C.), William Gilchrist (Z.), William Macmillan Gilmour (C.), James Glover (B., Z.*), George Munn Gray (B., P.), Louis Leisler Greig (B., P.), John Hanson, M.A. (B., P.), John Cochrane Henderson (B.), Lawrence Hislop (Z.), Malcolm Hutton, M.A. (B., Z.), Arthur Innes (B., P.), Alexander Jamieson (Z.), John Muir Kelly (B., P.*), Alexander Leggat (B.), Robert Thomson Leiper (B., P.), Archibald Leitch (Z., C.), James Marshall (B., P.), Gavin Millar (B., P.), Peter Millar (B., P.), David Robertson Mitchell (B., P.*), John Baird Morton (B.,* P.), Gavin Muir (B., P., C.), John Muir (B., P.), John Murdoch (B., P.*), John Bertram M'Cabe (P.), Donald Carmichael M'Cormick (B., P.), John Finlay Macdonald (P.), Neil M'Dougall (B., P.), James Boston M'Ewan (B., P.), Hugh Allan Macewen (B., P.), James Denniston Macfie (B.), Robert Clark M'Guire (B., P.), James M'Houl (B., P.), Alexander Stewart M'Millan (C.), James Anthony Macvea (B.), James Carmichael Pairman, M.A. (B., Z.), William Robinson Pirie (Z., C.), James Porter (B., P.), George Raeburn (B., P.), Berkeley Hope Robertson (B., Z.*), Robert Thin Craig Robertson (C.), Campbell Ross (B., P., C.), William Garrow Shand (B., P.), John Macgregor Smith (B.), James Alexander Somerville (C.), John Black Stevenson (B., P.), Norman Burgess Stewart (B., P.), William Stewart (C.), John Wilson Sutherland (B., P.), Murray Ross Taylor (B., P.), William Templeton (B.,* P.), George Douglas Turner (Z., C.), John Walker, M.A. (B., C.), William Lind Walker (B., Z.), George Wallace (P.), Robert Watson (B., C.), William Norman West Watson (C.), Robert Tait Wells, M.A. (P.*), George Wilson (Z., P.), Robert M'Nair Wilson (B., Z.), Eldred Wright (B., P.), James Wyper (B., P.), Hugh Young (B., C.), John Young, Glasgow (B., Z.), and John Young, Mount Vernon (B., P.). *Women*—Helen Stephen Baird, B.A. (P., C.), Agnes Wallace Cameron (B.), Mary Charlotte Cameron (B., Z., P.), Jane Campbell (B.), Ethel Lily Chapman (P., C.), Jessie Galloway Duncan (B., Z.), Mary Theresa Gallagher (B., Z.), Jane Reid Foulds Gilmour (B., Z., P.), Katharine Robina Margaret Lucas (Z., C.), Margaret Hardy (B.), Anna Pollock Martin (B., Z.*), Margaret Walker Millar (B., Z.), Eliza Jane Miller (B., Z.), Isabel Deane Mitchell (B., Z., C.*), Jessie Emily Munro (B., Z.), Alice Wesley Maclean (Z., P.), Charlotte Reid Park (B., Z.), Jessie Marie Stewart (B., Z., C.), Elizabeth Taylor Talbert (P.), and Janet Gardner Waddell (C.).

The following have passed the Second Professional Examination for the Degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (A., Anatomy; P., Physiology; and M., Materia Medica and Therapeutics):—

John Anderson (M.), Thomas Anderson (M.), William Archibald (A., M.), Robert Wellwood Auld (M.*), John Stoddart Barr (M.), Andrew Baxter (M.), Ernest C. Burnett (A., M.), Patrick Thomas Cairns (P.), Samuel James Cameron (M.*), John J Y. Campbell (P.), Robert David Campbell (M.), Edward S. Chapman (P., M.), George H. Clark (A., M.), James B. W. Cook (M.*), Ernest H. Cramb (P., M.), Andrew Currie (M.), John S. Dale (A., P., M.), David B. Davidson (M.), Gregor H. G. Davie (A., M.), William Dick (M.*), Alexander Doig (M.), Hugh M'M. Donaldson (M.), George H. Downie (M.), Reginald N. Dunlop (M.), William Elder (P.), William Watt Farrar (M.), George Ferguson (M.), Duncan J. Fletcher (P.), William Gemmill (M.), Archibald Gow (M.), Andrew P. Granger (P.), John Gregor (M.), Leslie C. B. Head (M.), Francis J. Henry (M.), Matthew Hunter (M.), William J. Isbister (M.), Pierce Jones (A.), Daniel R. Kilpatrick (M.), William H. Kirk (M.), David Kyle, M.A. (A., P., M.), John Lumble (A., P.), Alexander Linn (A., M.), Joseph P. Lusk (A., P.), William A. Masson (M.), James G. Millar (P., M.*), Robert J. Mills (A., P., M.), Allan D. Mitchell (A., M.), Samuel J. Moore (A., P., M.), John Morison (A., P.), Alan Howie Muir (M.), Coll M'Donald (M.), Wm. F. M'Glashan (M.), Alex. Maclean (A., P., M.), Hugh A. M'Lean (M.), A. M'G. M'Millan (A., P., M.), G. W. M'Millan (A., M.), Robert Orr (M.), John Paton (M.*), James N. Prentice (M.), Robert Ramsey (M.), Thos. H. Rankin (A., P.), Andrew Reid (A., M.), John W. Renton (P., M.*), Thomas Richmond (M.), Wm. Robertson (Kilmarnock) (M.), Thomas R. Rodger (M.), William G. Rodger (M.), Norman C. Rogers (M.), Andrew T. Ross (P., M.), James C. Ross (A., P., M.), Malcolm B. G. Sinnette (P., M.), David Spence (A.), Donald Steel (M.*), John Stewart, M.A. (A., M.), John B. Stewart (M.), Robert R. Swan (M.), James N. Todd (M.), J. G. Tomkinson (M.*), John Turnbull (P.), J. W. Turner (A., P., M.), John Unsworth (P., M.*), R. W. Valentine (A., P., M.), James Walker (A., P., M.), George S. Wallace (M.), Hugh F. Warwick (M.), R. G. White M.A. (M.), Archibald S. Wilson (P.), David A. Wilson (P., M.), James Wilson (P.), John Wilson (A., P.), and Robert Wylie (M.). *Women.*—Margaret Edith Bryson (A.), Janet B. Higgins (A., P., M.), Janet Thomson Miller (A., P.), Alice Moorhouse (M.), Elizabeth Ness MacBean Ross (A., P., M.*), Agnes B. Sinclair (A.), Agnes Bankier Sloan (A.), Elizabeth M. Sloan (A.), and Henrietta Fraser Young (M.).

The following have passed the third professional examination for the Degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (P., Pathology; and M., Medical Jurisprudence and Public Health):—

Matthew Aikman, M.A. (M.), Thomas Thomson Bathgate (M.), Alexander Binning (M.), Alexander Birch (P., M.), William Herbert Brown (M.), John Douglas Brownlie (M.), Edward Provan Cathcart (M.), Robert Clark (M.), Frank Lindsay Dickson (P., M.), John Downie (M.), John Pinkerton Duncan, B.Sc. (P., M.), Leonard Findlay (M.), John Forrest (P., M.), Alexander Fraser, M.A. (M.), David George Somerville Gartshore (P., M.), William Girvan (P., M.), Charles Aikman Gourlay, M.A. (M.), James Dickson Gourlay (P., M.), John Gracie (P., M.), Charles Herbert Gunson (M.), Charles Milburn Hope (P.), Thomas Hamilton Jack (P., M.), William Bryce Kerr (P., M.), Alexander King (P., M.), James Dickson Laidlaw (P., M.), John Francis Lambie (P.), Alexander Leitch (P., M.), James Dunlop Lickley (M.*), Donald M'Farlane Livingston (M.), Alexander Logan (M.), David Longwill (P., M.), Jacob Mains (M.), Andrew Mair (M.), Allan Martin, M.A., B.Sc., (M.), Robert M'Nab Marshall (M.), Wm. Archibald Mills (P., M.), Alexander Robert Moir (P.), Daniel Morrison (P.), Alexander Munro (M.), Alex. MacCulloch (P., M.), James Wm. M'Dougall (P.), Walter James M'Feat (P.), George Steventon M'Kinnon (M.), James Mackinnon (M.), William Barr Inglis Pollock (M.*), David Russell

(M.), David Shannon (P., M.), Andrew Stewart (P., M.), Robert Bryers Thom (P., M.), Alex. Dey Thompson (P., M.*), Joseph Swinburn Townley (P., M.), Jas. Cameron Turnbull (M.), Albert Ernest Wainwright (P.), Wm. Dinning Walker (P., M.), George White (M.), Hugh Patrick Wright (M.), and John Young, Glasgow (M.). *Women.*—Daisy Annabella Murdoch Clark, B.Sc. (P., M.), Lizzie Thomson Fraser (P., M.*), Helen Mary Gordon (P., M.), Lila Stephenson Greig (M.), Mabel Hardie (M.), Mary Emma Potter (P., M.), Margaret Mitchell Ritchie (P., M.), Mary Ann Thompson Ritchings (P., M.), and Mabel Talbot (P., M.).

* Passed with distinction in the subject indicated.

ROYAL UNIVERSITY OF IRELAND.—The examiners have recommended that the following candidates be adjudged to have passed the undermentioned examinations:—

M.B., B.Ch., and B.A.O. Degrees Examination.—Upper Pass: * Isaac M. Byers and * John E. Clements, Queen's College, Belfast; James Good and Wm. Hartnett, Queen's College, Cork; * Wm. M. Hunter and * David Kernohan, Queen's College, Belfast; * Wm. Lapsley, Queen's College, Cork; Thos. J. M'Donogh, B.A., and * Bernard A. O'Flynn, Roman Catholic University School of Medicine; and * John W. West, Queen's College, Belfast. *Pass:* Annie H. Crawford, Arthur W. Crawford, Henry L. Craig, Emily M. Crooks, and John H. Davis, Queen's College, Belfast; Bertram R. Dinnis, Queen's College, Cork, and University of Edinburgh; Hugh Donnelly, Queen's College, Belfast; Frances A. Dreaper, B.A., Roman Catholic University School of Medicine; David Finnegan, John R. Gillespie, M.A., Galbraith H. Grills, Samuel Hill, Alexandrina C. Huston, and George Jefferson, Queen's College, Belfast; Charles Kidd, Queen's College, Galway, and School of Medicine, Edinburgh; Kathleen F. Lynn and Samuel M'Cann, Roman Catholic University School of Medicine; Edwin W. S. Martin, Douglas C. Moore, and Patrick J. Morgan, Queen's College, Belfast; Thomas F. O'Keefe, Queen's College, Cork, and Roman Catholic University School of Medicine; Patrick M. Quinn, Roman Catholic University School of Medicine; James Ritchie, Queen's College, Belfast; Frederick Ryan, Roman Catholic University School of Medicine; and Joseph J. Waters, Queen's College, Galway, Roman Catholic University School of Medicine, and School of Medicine, Edinburgh.

M.B. Degree Examination.—Ignatius J. Flynn, M.B., B.Ch., B.A.O., Roman Catholic University School of Medicine; Thomas Houston, B.A., M.B., B.Ch., B.A.O., Queen's College, Belfast; and Robert Watson, M.B., B.Ch., B.A.O., private study.

* Indicates that the candidate may present himself for the further examination for honours.

FOREIGN UNIVERSITY INTELLIGENCE.—*Baltimore (Medical College):* Dr. C. M. Rowland has been appointed Professor of Anatomy, Dr. E. L. Whitney Professor of Physiological Chemistry, Dr. Chas. G. Porter Professor of Pathological Anatomy and Bacteriology, and Dr. Charles O'Donovan Professor of Pædiatry.—*Bologna:* Dr. N. Barrucco of Naples has been recognised as *privat-docent* of Dermatology and Syphilography.—*Chicago (Medical College):* Dr. Futterer has been appointed Professor of Pathological Anatomy; (*Rush Medical College*) Dr. C. Fenger has been appointed Professor of Surgery.—*Cincinnati (Ohio Medical College):* Dr. A. V. Phelps has been appointed Assistant Professor of Anatomy.—*Cracow:* Dr. F. Mayer has been appointed *docent* of Forensic Medicine.—*Kharkoff:* Dr. L. V. Orloff has been appointed Professor of Clinical Surgery in succession to the late Dr. Grube.—*Montevideo:* Dr. Jaime H. Oliver has been appointed Professor of Operative Medicine in succession to Dr. G. Arrizabalaga.—*Naples:* Dr. Nicola Longo has been recognised as *privat-docent* of Operative Medicine.—*Pavia:* Dr. Edmondo Orlandi has been recognised as *privat-docent* of Medical Pathology and Dr. Alessandro Prediери as *privat-docent* of Surgical Pathology.—*Turin:* Dr. Alessandro Codivilla and Dr. Carlo Orecchio have been recognised as *privat-docenten* of Surgery and Operative Medicine.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of this society was held on Oct. 11th, Mr. Christopher Heath, Vice-President, being in the chair. Six new members were elected and the death of Mr. Mould, a Vice-President, and at one time a very active member of the society, was reported. The death of a widow was announced who had received £50 per annum since July, 1884. A first application for a grant was read from a widow and a grant at the rate of £40 per annum was made. Applications for renewal of grants were received from 48 widows, 12 orphans, and six recipients from the Copeland Fund, and it was resolved to distribute at the next court among them the sum of £1201 10*s*. The directors were pleased, on the report of the acting treasurer, to be enabled to vote a sum of £541 to be given as a Christmas present to the widows and orphans on the funds of the society—viz., £10 to each widow, £3 to each orphan, and £5 to five recipients from the Copeland Fund. The expenses of the quarter were £62 10*s*.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.—A scholarship of £90 will be awarded in July, 1901, by the Council of the London (Royal Free Hospital) School of Medicine for Women on the results of the Preliminary Scientific Examination of the London University. Particulars may be obtained from the secretary of the school, Miss Douie, M.B. Lond., 8, Hunter-street, W.C.

IN MEMORIAM.—The governors of Guy's Hospital have placed in the hospital chapel a brass tablet as a memorial of the late Mr. W. E. Gladstone who was the senior governor at the time of his death. The inscription reads: "In memory of William Ewart Gladstone, four times Prime Minister of England, and for 63 years a Governor of this Hospital. Born 29th December, 1809. Died 19th May, 1898."

DRAINAGE OF BRISTOL.—At the meeting of the Bristol City Council held on Oct. 11th it was resolved to adopt the report of the sanitary committee and to promote a Bill for diverting the sewage of the city from the river Avon and discharging it into the Severn estuary near Avonmouth. The estimated cost is about £650,000, but this includes the districts up the Avon as far as Bath and on the river Frome as far as Warmley, and it is hoped that these districts will participate in the scheme. The cost of dealing with the Bristol sewage is estimated at £490,000.

KINGSTON'S MEDICAL MAYOR.—The approaching close of Dr. Finny's mayoralty of the borough for the year is to be marked by a ceremony of considerable interest. The Speaker of the House of Commons, the first Freeman of the borough, will, on Oct. 26th, unveil the new stained-glass window which has been placed in the town-hall council chamber to commemorate the seven hundredth anniversary of the granting by King John of his first Charter to the borough. After the ceremony, which will take place at an early hour to suit the convenience of the Speaker, Dr. Finny will entertain at a *déjeuner* at the St. James's Hall a large company, consisting of the corporation, magistrates, and representatives of the neighbouring public authorities, in celebration of the occasion.

THE EDINBURGH UNIVERSITY GRADUATES' CLUB, Birmingham, held their annual dinner at the Grand Hotel on Oct. 13th. The chair was taken by Dr. T. Edgar Underhill and the vice-chair by Dr. E. Vaudrey of Derby. The guest of the evening was Professor Chiene who, in replying to the toast of "The University," recalled many happy memories to those present, many of whom he knew well as students. Professor Chiene also made a touching reference to the loss of two prominent figures in the academic life of Edinburgh, Professor William Rutherford and Mr. John Duncan. Songs were given by Dr. Morton, Dr. Poole, and Dr. Briggs, and recitations by Dr. Ratcliffe. The secretaries, Mr. Christopher Martin and Dr. Douglas Stanley, were able to report a very satisfactory increase in membership.

FREEMASONRY.—*The Æsculapius Lodge No. 2410.*—The installation meeting of this lodge was held at the Café Royal, Regent-street, on Oct. 11th. There was a large attendance of members and visitors. Bro. Surgeon-Lieutenant-Colonel H. W. Kiallmark, P.G.D., the W.M., occupied the chair. Bro. Captain Percy Probyn, R.A.M.C., was admitted to the second degree and Mr. J. H. Bryant, M.D., M.R.C.P. Lond., Mr. T. G. Stevens, M.D., M.R.C.P. Lond., Mr. G. B. Smith, F.R.C.S. Eng., and Mr. F. J. Steward, M.S. Lond., F.R.C.S. Eng., were admitted into Freemasonry. Bro. Herbert G. Blackmore, L.D.S.R.C.S. Eng., was installed Master for the ensuing year and invested his officers—viz.: Bro. Montague Cheale, M.R.C.S. Eng., Senior Warden; Bro. Ernest Clarke, M.D. Lond., F.R.C.S. Eng., Junior Warden; Bro. Rev. W. Harrison, M.A. Cantab., Chaplain; Bro. G. Danford Thomas, M.D. Brux., Coroner for Central London, Treasurer; and Bro. Thomas Dutton, M.D. Durh., M.R.C.P. Edin., Secretary. After the report of the audit committee had been received a Past Master's jewel was presented to Bro. Kiallmark, and the lodge was then closed. About 50 members and visitors afterwards dined together. The important event, after the usual Royal and Masonic toasts had been duly honoured, was the enthusiastic "send off" which Bro. Captain Probyn received on its becoming generally known that he had on that afternoon received orders to join a regiment for South Africa.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.—At the monthly meeting of the President and Fellows held on Oct. 6th Mr. E. Gibbs Smith, L.S.A., was admitted to the Licence in Medicine of the College.

IT is reported in the *Morning Herald* that the assistant medical officer of the City of London Infirmary at Bow has resigned his post because he is unable to work in harmony with his principal, and that the City Guardians have passed a vote of censure on that principal.

MEDICAL MAGISTRATE.—Mr. Alfred O. Davies, M.R.C.S. Eng., L.R.C.P. & S. Edin., of Machynlleth, has been appointed a magistrate for the county of Montgomery by the Lord Lieutenant of the county, Sir H. Watkin Williams-Wynne.

TYPHOID FEVER AND SHELLFISH.—At a meeting of the St. Thomas's (Exeter) Rural District Council held on Oct. 13th Mr. Mark Farrant, jun., the medical officer of health, reported that during September seven cases of typhoid fever had occurred, five of these were from Topsham and in two cases the patients had been eating cockles.

LITERARY INTELLIGENCE.—A new and enlarged edition of Professor Thomson's "Handbook of Anatomy for Art Students" has just been issued from the Clarendon Press.—A new work by Dr. Marcus R. P. Dorman, M.A., will be published in November by Messrs. Kegan Paul. It is entitled "The Mind of the Nation," and is an analysis of the political thought of the closing century.

VACCINATION FEES.—At the meeting of the Bath Board of Guardians held on Oct. 11th, the chairman of the finance committee reported that the fees paid to the public vaccinator in the last quarter were eight times as large as for the corresponding period of last year.—At the meeting of the Cardiff Board of Guardians held on Oct. 12th the chairman remarked that the fees of the public vaccinators were twice as much since the Vaccination Act (1898) came into force.

UNIVERSITY OF CAMBRIDGE.—Sir Michael Foster has been re-appointed a manager of the Balfour Fund for morphological research. Mr. W. L. Duckworth, Fellow of Jesus College, has been appointed University Lecturer in Physical Anthropology. Mr. Lempfert of Emmanuel College has been appointed Assistant Demonstrator of Physics at the Cavendish laboratory. The election of a member of the General Medical Council by the graduates who are members of the Senate will be held in the Senate House on Oct. 23rd. Polling begins at 2.15 P.M. Dr. Donald MacAlister of St. John's College, the present member, is re-eligible. McGill University, Montreal, is to be adopted as an affiliated university. Mr. J. K. Murphy, M.A., of Gonville and Caius College, was on Oct. 12th admitted to the degree of Doctor of Medicine.

CHURCH SANITARY ASSOCIATION.—On Oct. 13th Dr. Collingridge, medical officer of health of the Port of London, presided at a meeting held at the Westminster Palace Hotel under the auspices of the Church Sanitary Association. He said that it was to the higher dignitaries of the Church that they had most strongly to appeal. In sanitation a revolution was called for, and that revolution was steadily advancing. It was necessary to secure the coöperation of those who, by their education and position, had opportunities of bringing the matter before the people in such a way that they must be listened to. It was resolved to send a telegram of congratulation and good wishes to the Duke of Westminster, patron of the society, on the attainment of his seventy-fourth birthday. A paper on Sanitation as Taught by the Mosaic Law, by Dr. Adler, the Chief Rabbi, was read, in the unavoidable absence of Dr. Adler, by the honorary secretary of the society. On the motion of the Rev. J. W. Horsley, rector of St. Peter's, Walworth, seconded by Mr. Alderman Phillips, it was carried that in the opinion of the meeting more attention should be given to dietetic reform, inasmuch as more illness and mortality were caused by wrongly feeding than by insufficiency of food. Dr. Christopher Childs moved a resolution requesting the Archbishop of York, the President of the association, to consider whether a scheme might be devised by which the clergy would systematically promote a knowledge of the laws of health amongst the people and use their influence incessantly against insanitary habits and customs. Mr. F. J. Munby seconded the motion, which was agreed to.

DECORATIONS FOR MEDICAL MEN.—The Queen has been pleased to grant to each of the under-mentioned gentlemen her Majesty's Royal licence and authority that he may accept and wear the Insignia of an Officer of the Royal Order of the Saviour:—Francis Charles Abbott, F.R.C.S., and Samuel Osborn, F.R.C.S. The same permission with regard to the Insignia of Chevalier of the Royal Order of the Saviour has been granted to Henry John Davis, M.R.C.S., Robert Fox-Symons, M.R.C.S., Henry Alford Moffat, F.R.C.S., and Hamilton Gattliff. The decorations have been conferred by the King of Greece in recognition of services to the Greek wounded during the late war between Greece and Turkey.

NEWCASTLE THROAT AND EAR HOSPITAL.—The annual meeting of those interested in the Newcastle Throat and Ear Hospital was held on Oct. 12th, the mayor presiding. The report stated that during the year 1898 there were 2058 new cases entered on the hospital register and 150 operations were performed. The accounts showed that for the year ending Dec. 31st, 1898, the receipts had been £567 and a favourable balance of £65 was left. Complaint was made of the inadequacy of the premises and the committee recommended that an appeal should be made for funds to provide a new institution.

CARDIFF INFIRMARY.—At a meeting of the committee of the Cardiff Infirmary held on Oct. 11th, under the presidency of Dr. W. T. Edwards it was stated that the overdraft at the bank was now £3899 and the finance committee recommended that one of the women's wards should be immediately closed. After a long discussion it was decided that the question of closing the ward should be considered at a special meeting to be held next month. The secretary reported that there were 137 patients in the infirmary and 79 people were awaiting admission.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

ON account of the military operations in South Africa and the extra expenditure which they involve the Houses of Parliament have been called together at this unusual period of the year. The Supplementary Estimates issued amount to £10,000,000 and the number of men asked for by the Government is 35,000. At the opening of the session on Tuesday, Oct. 17th, there was a large attendance of Members of both Houses, but especially of the House of Commons. Among the medical members present were Sir Walter Foster, Sir William Priestley, Sir Charles Cameron, Sir George Pilkington, Dr. Farquharson, and Dr. Tanner. In the Queen's speech opening the session reference was made to recent events in South Africa and to the preparations for the war and it was announced that when the ordinary session of Parliament is held in the beginning of the year the attention of members will be invited to many subjects of domestic interest. On the second day of the session a resolution was passed giving precedence to Government business and preventing private members from asking leave to introduce Bills. Medical men need, therefore, have no apprehension about the introduction of a Midwives Bill during the present session. They may reckon, however, on the medical arrangements for the campaign in South Africa being discussed.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ADDENBROOKE, BERTRAM, M.D., B.S., M.B., B.Hy., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Surgeon to the Kidderminster Infirmary and Children's Hospital, vice E. H. Addenbrooke, resigned.

ADDENBROOKE, E. H., M.R.C.S., has been appointed Honorary Consulting Surgeon to the Kidderminster Infirmary and Children's Hospital.

BAILEY, REGINALD THRELFALL, M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer to the Ashton-street Department (Lock), Royal Infirmary, Liverpool, and House Surgeon to the Ophthalmic, Laryngological, and Aural Departments, Royal Infirmary, Liverpool.

BODY, HENRY MARTEN, M.R.C.S., L.S.A. Lond., has been re-appointed Medical Officer of Health by the Crediton (Devon) Urban District Council.

COOMBE, RUSSELL, M.A., M.D. Cantab., F.R.C.S. Eng., M.R.C.P. Edin., has been appointed for duty in connexion with the medical charge of troops at Exeter.

DAVIDSON, W., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Sixth Sanitary District of the Beverley Union, vice H. Hine, resigned.

DUNN, J., F.R.C.S. Edin., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been elected President of the Halifax and District Medical Society.

EVANS, J., M.R.C.S., has been appointed Medical Officer for the Children's Homes of the Cardiff Union.

FRASER, P., M.D. Edin., has been re-appointed Medical Officer of Health by the Llanrwst Urban District Council.

HUNTON, R., M.B., C.M. Edin., has been appointed Medical Officer for the Hartlepool and Stranton Sanitary District of the Hartlepool Union, vice S. Gourley, resigned.

LÜCKHOFF, J., M.B., Ch.B., has been appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham-road, London, S.W.

MOORE, F. CRAVEN, M.D., M.Sc. Vict., has been appointed Pathological Registrar to the Royal Infirmary, Manchester.

MORSHEAD, E. G. A., M.D. Brux., L.R.C.P. Lond., M.R.C.S., has been appointed an Honorary Medical Officer of the Royal Surrey County Hospital, Guildford.

MUIR, J. C., M.B. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed Second Resident Assistant Medical Officer for the Crumpsall Workhouse, Township of Manchester, vice H. J. Crossley.

OLIVER, C. P., M.D. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer of Health by the Maidstone Urban District Council.

PEACHEY, G. C., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been re-appointed Medical Officer for the Brightwalton Sanitary District of the Wantage Union.

PERIGAL, A. P., M.B., Ch.B., has been appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham-road, London, S.W.

PERNET, GEORGE, M.R.C.S., L.R.C.P., has been appointed Honorary Pathologist to the Hospital for Diseases of the Skin, Blackfriars, S.E.

QUENNELL, A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Mountnessing Sanitary District of the Billericay Union, vice P. Johnson, resigned.

REEDE, A. K., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Yarcombe Sanitary District of the Honiton Union, vice H. W. Spicer, resigned.

SCATTERTY, W., M.D. Aberd., has been appointed Medical Officer of Health to the School Board, Keighley.

SENIOR, A., M.B., B.C. Camb., D.P.H., has been re-appointed Medical Officer of Health by the Esher and Dittons Urban District Council.

SISSONS, A. T., M.B., B.Ch. Vict., has been appointed Junior Resident Assistant Medical Officer for the Crumpsall Workhouse, Township of Manchester, vice J. C. Muir.

SMITH, W. R., M.B., C.M. Edin., has been appointed President of the Central Board of Health for South Australia.

TROTTER, EDWARD, M.B., Ch.B., has been appointed House Surgeon to the Hospital for Women and Children at Leeds.

WILLIS, E. E., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Seventh Sanitary District of the Downham Union, vice A. H. Copeman, resigned.

WINDSOR, C. W., M.D. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Workhouse of the Royston Union, vice D. B. Balding, resigned.

WINSTANLEY, R. W., L.R.C.P. Edin., M.R.C.S., has been re-appointed a representative Trustee of the Haslemere United Charities.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BETHLEM HOSPITAL, London.—Two Resident House Physicians for six months. Apartments, complete board, and washing provided, and an honorarium at the rate of £12 12s. each per quarter will be paid.

BRIGHTON, HOVE, AND PRESTON DISPENSARY (NORTHERN BRANCH), 113, Queen's-road, Brighton.—House Surgeon. Salary £160 per annum, with furnished apartments, coals, gas, washing, and attendance.

BIRMINGHAM CITY ASYLUM.—Senior Medical Officer, unmarried. Salary £150 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Board and residence provided in the hospital.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant, tenable for three months.

CITY HOSPITAL FOR INFECTIOUS DISEASES, Newcastle-upon-Tyne.—Resident Medical Assistant for one year. Salary £80, with board, lodging, and washing.

CORPORATION OF MANCHESTER, MONSALL FEVER HOSPITAL.—Third Medical Assistant, for one year. Salary £100, with board and lodgings. Applications to the Chairman of the Sanitary Committee, Public Health Office, Town Hall, Manchester.

COUNTY ASYLUM, Prestwich, Manchester.—Assistant Medical Officer, unmarried. Salary to commence at £125, increasing by yearly instalments of £25 to £250, with board, apartments, and washing.

COUNTY BOROUGH OF GREAT YARMOUTH.—Medical Officer of Health, Medical Officer for the Borough Isolation Hospital, and Port Medical Officer of Health. Salary £400 a year. Apply to the Town Clerk, Town Hall, Great Yarmouth.

COUNTY OF YORK, WEST RIDING ASYLUM, Wakefield.—Junior Assistant Medical Officer. Salary £100, rising £10 annually to a maximum of £150, with furnished apartments, board, washing, and attendance.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—Assistant House Surgeon. Salary £50 per annum, with furnished apartments, board, and washing.

FRENCH HOSPITAL AND DISPENSARY, 172, Shaftesbury-avenue, London.—Resident Medical Officer, unmarried, speaking French. Salary £80 per annum, with full board.

GLAMORGAN COUNTY COUNCIL AND CARDIFF CORPORATION.—Bacteriologist to the Joint Committee of the Glamorgan County Council and Cardiff Corporation, and Lecturer on Bacteriology in the University of Cardiff. Salary as Bacteriologist and Lecturer, £300 a year. No pension or payment on account of fees received. Apply to the Clerk, Glamorgan County Offices, Cardiff.

GRIMSBY AND DISTRICT HOSPITAL.—Resident House Surgeon. Salary £80 per annum, board, lodging, and washing.

HOSPITAL FOR THE INSANE, The Coppice, Nottingham.—Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, attendance, and washing.

HOSPITAL FOR WOMEN, Soho-square, London, W.—House Physician for six months. Salary £30 for that period.

LIVERPOOL STANLEY HOSPITAL.—Senior House Surgeon. Salary £80, with board, residence, and washing.

MANCHESTER, CHORLTON-UPON-MEDLOCK DISPENSARY.—Resident House Surgeon, unmarried. Salary £120 a year, with furnished rooms and attendance.

NOBLE'S ISLE OF MAN GENERAL HOSPITAL AND DISPENSARY, Douglas, Isle of Man.—Resident House Surgeon, unmarried. Salary £72 per year, with board and washing.

NORTH-WEST LONDON HOSPITAL, Kentish-town-road.—Honorary Anæsthetist for twelve months. Also Resident Medical Officer and Assistant Resident Medical Officer for six months. Salaries at the rate of £50 per annum each.

NOTTINGHAM GENERAL DISPENSARY.—Senior Resident Surgeon, unmarried. Salary £180 a year, increasing by £10 annually to £200. Special arrangement for board, &c.

PARISH OF FULHAM.—Assistant Medical Superintendent for the Infirmary, St. Dunstan's-road, Hammersmith, unmarried. Salary £120 per annum, increasing £10 yearly to a maximum of £150, with board, furnished apartments, attendance, and washing, subject to statutory deductions. Applications to the Clerk to the Guardians, 75, Fulham Palace-road, Hammersmith, W.

PONTEFRACT GENERAL DISPENSARY AND INFIRMARY.—Resident Medical Officer. Commencing salary £130 per annum, rooms, fire, lights, and attendance.

ROYAL HALIFAX INFIRMARY.—Dresser to work under the House Surgeons. Board and residence provided.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, W.—Demonstratorship of Physiology. Apply to Dr. Waller, at the Medical School.

STOKE-UPON-TRENT UNION.—Resident Medical Officer for the Workhouse. The salary is £130 for the first year, increasing £15 annually to a maximum of £175, with board, washing, and furnished apartments in the hospital, subject to statutory deductions. The Guardians provide the drugs, medicines, and appliances.—Applications to the Clerk to the Guardians, Union Offices, Stoke-upon-Trent.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £110 a year, with board, lodging, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

ALEXANDER.—On Oct. 16th, at 7, Portland-place, W., the wife of Adolphus B. Alexander, L.D.S., R.C.S. Eng., of a son.

MACKAY.—On Oct. 14th, at Drumsheugh-gardens, Edinburgh, the wife of George Mackay, M.D., F.R.C.S.E., of a son.

MORISON.—On Oct. 14th, at the Clock House, East Barnet, the wife of Henry Bannerman Morison, M.B., of a daughter.

PINKERTON.—On Oct. 13th, at South Norwood-hill, the wife of Robert L. Pinkerton, M.A., M.D., of a daughter.

REECE.—On Oct. 16th, at Addison-gardens, W., the wife of Richard J. Reece, M.A., M.D., of a son.

SOUTH.—On Oct. 10th, at Church Close, Boston, Lincs., the wife of Richard E. South, J.P., L.R.C.P., M.R.C.S., of a daughter.

MARRIAGES.

BRADFORD—ROBERTS.—On Oct. 17th, at St. Philip's, Alderley Edge by the Rev. J. W. Consterdine, M.A., John Rose Bradford, M.D., F.R.S., to Mary (May) daughter of the late Thomas Foulkes Roberts, J.P.

MACPHERSON—NASH.—On Oct. 14th, at St. Peter's, Bayswater, William Hugh Macpherson, M.A. Cantab., M.R.C.S., of Henley-on-Thames, to Maud Hollick, fourth daughter of Edmund Nash, M.D., of Lansdowne-road, Notting-hill.

TAYLOR—HARVEY.—On Oct. 11th, at the parish church, Thorpe Saint Andrew, Norwich, Sidney Johnson Taylor, M.B., M.R.C.S., of Norwich, to Elizabeth (Lily), elder daughter of the late George Harvey, of Glasgow.

DEATHS.

BARNES.—On Oct. 12th, John Wickham Barnes, F.R.C.S., of Bolt-court and Stanwell Moor.

FLOWER.—At 9, Beaufort West, Bath, on Oct. 7th, 1899, in his 85th year, Thomas Burges Flower, Esq., F.R.C.S. Eng., F.L.S., formerly of Seend, Wilts, son of the late Thomas Flower, Esq., of Melksham.

WALLACE.—Killed by a landslip during the disastrous cyclone and floods at Darjiling, in Bengal, on Sunday morning at two o'clock, Sept. 24th, 1899, Ruth Elizabeth, aged nine years, and Phœbe, aged three years, the much-loved daughters of James Robert Wallace, M.D., F.R.C.S.I., editor of the *Indian Medical Record*, Calcutta.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE LITERATURE OF VACCINATION.

WE are not infrequently asked by correspondents, both medical and lay, to refer them to literature containing the true gospel of vaccination. The activity of certain anti-vaccination propagandists with voice and pen is not imitated by medical men, for the medical profession does not feel called upon to answer at length critics whose pretensions to understand the subject whereof they write so strongly are wont for the most part to be so weak. But we have never hesitated to allow that there are among the ranks of the opponents to vaccination a few men whose scientific positions make it exceedingly difficult to understand their attitude. Now and again one of these men [attacks vaccination and his words are made much of by the rest of the party, are disseminated broadcast, and are quoted in many letters to that section of the press where such letters are apparently welcome. Sometimes these attacks are answered and sometimes they are not; but the answering them is rather a thankless task, for it always raises a crop of communications from the kind of writer that no scientific person can waste time in arguing with.

A correspondent recently wrote to us, having been staggered by the faith exhibited by a friend in the views of Mr. A. R. Wallace as set forth in his book, "The Wonderful Century." He was alarmed at the harm which his friend—an influential man in several respects and a man of recognised intellectual gifts—might do if he not only accepted but propagated Mr. Wallace's view and he wanted to be placed in immediate possession of an antidote. We do not know that any man of science and medical knowledge has ever thought it worth while to answer the particular attack upon vaccination made by Mr. Wallace in "The Wonderful Century," but the views there put forth have been shown to be fallacious again and again in the most convincing manner. The following publications, among others, issued by the Jenner Society, should be recommended by our readers to any of the public with whom they may come in contact who desire to understand the *pros* and *cons* of a question which is most hotly debated by those least capable of understanding it.

Vaccination Vindicated. By J. C. McVail, M.D. St. And., D.P.H. Cloth boards, 5*s.* post free. This book is a masterly exposure of the statistical sophistries of the leading anti-vaccinationists. The fallacies which are constantly being circulated in letters to newspapers will be found thoroughly dealt with in Dr. McVail's lively pages. The book, we understand, is now nearly out of print.

Dr. C. Creighton, M.D., and Vaccination. A review by J. C. McVail, M.D. St. And., D.P.H. Price 6*d.*, post free 7*d.* This little pamphlet is a reprint of an article in the *Edinburgh Medical Journal* and is a clever refutation of a fantastic theory which is often paraded by opponents to vaccination.

Facts about Small-Pox and Vaccination. Issued by the Council of the British Medical Association. Pp. 8. Price 1*d.*, post free 1½*d.* An excellent and practical pamphlet.

The Story of the Gloucester Epidemic of Small-Pox: showing how it arose, the facts which make it notable, and the lessons it teaches, with full Statistics, Diagrams, &c., and also an abstract of the Report of the Vaccination Committee of the Gloucester Board of Guardians. By Francis T. Bond, M.D. Lond., M.O.H. Price 6*d.*, post free 7½*d.* Pp. 114. The articles which appeared in THE LANCET on this epidemic are also published by the Jenner Society as a pamphlet. Pp. 27. Price 2*d.*, post free 2½*d.* They show how facts were misrepresented by the anti-vaccinationists.

Some Small-pox Statistics. By Sidney Coupland, M.D., F.R.C.P. Lond. Pp. 18, with coloured diagram and tables. Price 6*d.*, post free 6½*d.*

A Plea for the Children, with illustrations, including an exact reproduction of two pages of an old register kept in the Parish Church at Pudsey, in Yorkshire, in 1787 and 1782, showing the prevalence of small-pox in the last century and the special ravages it made amongst children.

Fifteen Reasons for Believing in the Efficacy of Vaccination as a Preventive of Small-Pox. Pp. 16. This is an admirable leaflet. It is temperate, logical, and lucid, and deserves, as we said at the time of its issue, to be widely circulated.

Report of the Royal Commissioners on Vaccination, by J. C. McVail, M.D. St. And., D.P.H. This is a review of the dissentients' statement affixed to the recent Report of the Royal Commission upon Vaccination. It was a paper read before the Epidemiological Society (see THE LANCET, March 20th, 1897, p. 809). Price 6*d.*, post free 7*d.* Pp. 148.

The following publications, which are not supplied by the Jenner Society, are also recommended to those who wish to study the vaccination question thoroughly:—

The Report of the Royal Commission. 7 vols., with 9 vols. of Appendices. This report can be obtained through any bookseller.

The most important volume of the series is the Final Report, price 1*s.* 10*d.* Of the other six, five contain the evidence taken by the Commissioners during their inquiry and one a very short report on the treatment of defaulters.

Report of the Royal Commission on the Outbreak of Small-pox in the City of Gloucester in 1895-96. By Sidney Coupland, M.D., F.R.C.P. Lond. With numerous maps and diagrams. Published by Eyre and Spottiswoode. Price 7*s.*

Theory and Practice of Vaccination. By Robert Cory, M.A., M.D. Cantab. Price 12*s.* 6*d.* Baillière, Tindall, and Cox, London.

Vaccination, its History and Pathology; being the Milroy Lectures for 1898. By S. Monckton Copeman, M.A., M.D. Cantab., F.R.C.P. Lond. Crown 8vo, pp. 257. Price 6*s.* Macmillan and Co.

"A VERRY GOOD PRACTICE."

IN the *Daily Telegraph* this week there appeared an advertisement of a vacant situation addressed to fully qualified medical men. The letter, of which we append a copy, was received by a medical man who applied out of curiosity for details concerning the situation:—

[COPY.]

149 Newport Rd, Middlesborough, Oc. 16th, 1899

Sir,—I have your letter to hand. I have not practise for five year. I used to have a verry good practice at Grimsby and Gainsborough but owing to sutch a large increase in the temperance medicated drink I was compelled to give my medical practice up, and am now the largest manufacturer of drink. I have temperance bars, and costimers from south to north. I have been compelled to devote my time to that line alone, but I have a cousin of mine properley trained to the buisnes, and my hands are free again, and I have a liking for medical practice, so I have purchased 2 shops and live in one at above address. I shall be ready the week after next to commence, and intend to spare nothing to get established and advertise.

I am getting a crate of pills of my own receit. I intend to take all kinds of cases, also losses on midwifery etc. The latter would be *my assistant's duties also the visiting*, and indeed general practice. I intend to keep the best drugs. Park Davis and Co Fld extracts and Keith's Concentrated tinctures. I have a dog cart for visiting. My buisness takes me from home in the summer therefore I want a qualified man on the spot. The living is out, and I propose to divide all confinement moneys Will you kindly let me know your wages. The vacancy is permanent. More work more money for both of us I have lots of oplicants.

Yours,

J REINECKE Medical Herbalist

Offices and Breweries, West Marsh Grimsby

All casks and jars charged for No allowance unless returned in good condition.

The largest manufacturer of drink does not seem to understand that his fully qualified assistant would cease to be qualified as soon as he began to assist, nor, perhaps, does he fully appreciate the fact that if he makes losses of life in his midwifery practice he runs a risk of being hanged.

AN IMPUDENT OFFER TO BRIBE.

A MR. H. M. COLWELL is distributing the circular card which we reproduce below:—

Trusses of every Description.	Established 1832.	Ladies' Belts.
Elastic Stockings, Knee Caps, Anklets, &c.	H. M. COLWELL, 116, NEWINGTON CAUSEWAY, LONDON, S.E.	Prolapsus Supports.
Gent's Belts.	TRUSS AND SURGICAL APPLIANCE MANUFACTURER.	Obstetric Binders.
Suspensory Bandages.	The utmost care and personal attention given to fitting each patient.	Pessaries.
Hearing Trumpets.	A Liberal Discount allowed the Medical profession for their recommendation.	Martin's Bandages.
Leg Bandages.	Illustrated Price List Post Free.	Clinical Thermometers, and Surgical Appliances of all kinds

The offer to bribe medical men has been brought to our attention by several practitioners residing in Mr. Colwell's neighbourhood and, we believe, as well as hope, that this too enterprising person has damaged his trading position by his impudence. Sir Edward Fry, by the way, might see in this circular some justification for his wild statements concerning medical men and the receipt of commissions. We therefore recommend him to make inquiry into the replies which Mr. Colwell has received.

A CASE FOR DIAGNOSIS.

To the Editors of THE LANCET.

SIRS,—During the month of August while acting as locum-tenent for a medical man in the country I was called in to attend a case which I think may prove of interest to the profession and at the same time shows the danger of signing a lunacy certificate. A man, aged about 50 years, had had a "stroke" about March or April, 1898, and had suffered ever since from an impediment in his speech. I was called in on the night of Saturday, August 26th, at 11.20 P.M., and was told that he had been out in the sun that day, having returned homewards at night. Instead, however, of going to his own home

he wandered into that of a neighbour. This person took him in and put him to bed. When I saw the patient he was wandering in his speech and trying to get out of bed. He then had a slight paralysis of the right side of his tongue, which on being protruded pointed to the same side. His speech was thick and stammering. This condition, as I was informed, had resulted from the stroke of 15 months previously. No other objective sign of paralysis could be detected. The fresh symptoms caused by his present trouble were raving and delirium. I ordered cold applications to the head and gave five grains of calomel and recommended that he should be watched during the night. Upon calling to see him again next morning at 9.15 I found him still in the same state, but was told that he had been very troublesome during the night. His bowels had not acted, so I gave 15 grains of compound powder of scammony and visited him again at 11.30 A.M. My visits were continued four times daily until August 29th, but there was no change. On the occasion of my Sunday afternoon visit I gave him a hypodermic injection of $\frac{1}{120}$ grain of hyoscine hydrobromide, but this failed to quiet him, so at 10 P.M. the same day I administered a quarter of a grain of acetate of morphia hypodermically. He slept part of the night, but was as restless as ever when he woke up. During the night he tied the sheet round his neck and then to the top of his bed and was only prevented from strangling himself by the night nurse. He repeated his attempt on his life the next night by tying two handkerchiefs together and using them as he had done the sheet. He frequently asked for knives, his razors, and scissors. He had delusions as to having lost something in the bed and pulled the bedclothes about, turned the mattress over, and on one occasion he got under the mattress, supporting it on his head. He also fancied that those about him were going to injure him. He slept very little in spite of the fact that the hypodermic injection of acetate of morphia was repeated. This condition continued unchanged till the Tuesday morning. On that day I called in the relieving officer and a magistrate with the intention of signing a lunacy certificate and having him removed. We all met at the patient's house at 11 A.M., but before asking the officer and magistrate to see the patient I went up alone. He was then out of bed, with the pillows and bedclothes on the floor, and said he was looking for something he had lost. I had great difficulty in getting him back into his bed. I then called in the officer and magistrate. The moment these persons entered the room a great change came over the patient. I might add, by the way, that these persons were well known to him. On seeing them he lay quietly in bed and on my beginning to cross-examine him upon his delusions he made no reply and looked sulky. He then said to me, "I know these gentlemen," and naming each said they were the magistrate and relieving officer and that they had come to sign him as a lunatic. He also said he would say nothing till his brother (who was at the time downstairs, having been telegraphed for to London) came upstairs so that he might act for him. Upon his arrival I again cross-examined the patient. To each of my questions he answered in a perfectly sane manner, at the same time denying that he had called for razors, &c., or that he had tried to strangle himself in the manner mentioned above. Of course, as a result of his answers we could not sign him as a lunatic. That very afternoon he made his will and as far as I know is at present perfectly well, except for the defect in his speech due to the paralysis of the right side of his tongue. Throughout the attack his temperature, pulse, and appetite were normal. His arteries were somewhat rigid and he had had albuminuria. He has been a total abstainer all his life. I forward these notes in the hope that you may find space for them in THE LANCET as I shall be glad of a diagnosis, being at a loss to know what to call it.

I am, Sirs, yours faithfully,

S. I. CRAIGIE MONDY, M.R.C.S. Eng., L.R.C.P. Lond.

Shaftesbury-avenue, W., Oct. 3rd, 1899.

"A DISCREDITABLE HANDBILL."

IN reference to our remarks published last week under this heading we have received the following communication, presumably from Mr. Leonard:—

"19, North Earl-street, Dublin, 14th October, 1899.

"Referring to a note in this week's LANCET, Mr. John Leonard, L.R.C.P., is not the proprietor of the establishments in question, never saw the handbill complained of, and would have nothing to gain by any advertisement, as he, being an invalid, has almost completely retired from practice. Mr. Leonard earnestly deprecates any unseemly methods of attracting attention, but having absolutely disposed of his interest in the premises and having control only of one or two rooms in the house which he uses when staying in town, he is not at liberty to dictate to the pharmacists who at present own the concerns how they shall carry on business. But should anything be done which might seem to involve him personally, as regards professional usages, it will be in defiance of the terms of sale between Mr. Leonard and the present owners."

We would point out to Mr. Leonard that if he is desirous of remaining on the Medical Register he must immediately take steps to prevent the improper use of his name. He, or the author of the above communication, does not realise the position, or the words "might seem to involve him personally" would not be used. Mr. Leonard is certainly involved in this matter. A handbill bearing his name and the address at which he has registered himself as a member of the medical profession is being disseminated touting for "two thousand customers at Leonard's New Medical Hall." If he is too ill to do anything himself surely he can employ someone to act for him and so persuade or compel the pharmacists in whose hands he has placed himself to employ business methods which are not conducive to the prostitution of his name and of the profession to which he belongs.

"THE LYMPH OF THE NATIONAL VACCINE ESTABLISHMENT."

To the Editors of THE LANCET.

SIRS,—I wish to add my testimony to that of other public vaccinators as to the value of lymph supplied by the Local Government Board. The quality of the lymph and the results obtained were excellent from the first issue under the new Act to the end of June. Since then exactly the reverse has been true and instead of improving, as one might have expected, the results have been, on the whole, progressively worse up to the present.

I am, Sirs, yours faithfully,

Oct. 11th, 1899. ANOTHER P. V.

WANTED HOME FOR IMBECILE LADS.

Two practitioners would be obliged for information regarding an institution into which lads of feeble intellect could be admitted. In each case the parents can pay a small sum weekly.

"EPILEPSY DEPENDING UPON CARDIO-VASCULAR CHANGES."

THE author of this MS., which bears no name, is requested to communicate with us.

J. T. B.—The boy's condition is one that should be brought to the attention of a medical man. It seems to us from our correspondent's description that kind but disciplinary treatment in an institution or in the house of a medical man receiving such cases might work wonders. Such a course would not inflict any stigma upon the lad, for we are not suggesting that the case requires certification. The possibility of development for the worse must, however, be faced and medical aid should be sought without delay.

H.M.S.—The passages marked are exaggerations, but scarcely, we think, worth contradicting by THE LANCET. The matter will have consideration.

A. G. is advised under the circumstances he mentions to work for the Licentiateship of the Society of Apothecaries of London.

A Question of Taste.—Our correspondent has answered his own question. There can be no hard-and-fast rule in the matter.

Mr. Robert Grant.—The Medical Directory will give the information that is sought.

A. B.—We will make inquiries on the points our correspondent raises.

Thesis.—We will give what references we can under this *nom de plume*.

C. J. M. will find our opinion in a recent review of the book.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 19th, 1899.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation Vacuo.	Maximum Temp. Shade.	Min Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Oct. 13	29·77	N.W.	0·13	91	56	44	44	46	Cloudy
,, 14	30·14	W.	...	78	62	40	41	43	Fine
,, 15	30·20	E.	...	96	56	43	47	52	Fine
,, 16	29·93	E.	...	83	57	44	45	46	Hazy
,, 17	30·02	S.E.	...	91	61	46	47	49	Foggy
,, 18	30·31	S.E.	...	87	63	43	45	46	Foggy
,, 19	30·41	E.	...	74	54	43	44	44	Foggy

During the week marked copies of the following newspapers have been received: *Auckland Chronicle, Bury Guardian, City News (Manchester), Boston Guardian, South Wales Gazette, Kentish Express, Cambridge Chronicle, Science Siftings, Manchester Guardian, Kentish Observer, East Anglian Daily Times, Norfolk Daily Standard, Leicester Daily Post, Dundee Advertiser, Birmingham Daily Post, Times of India, Pioneer Mail, Eastern Morning News, Citizen, Sheffield Daily Telegraph, Scotsman, Builder, Architect, Northern Whig, Lancashire Daily Post, Liverpool Daily Post, Berks Advertiser, Leeds Mercury, Bradford Observer, Thames Valley Times, Bolton Journal, Yorkshire Post, Ceylon Observer, Bristol Mercury, Brighton Gazette, Melbourne Leader, Vegetarian, Sanitary Record, Family*

Doctor, Madras Times, Sydney Daily Telegraph, Mining Journal, Local Government Chronicle, Reading Mercury, City Press, Public Opinion, Nature, Dentist, Insurance Chronicle, Manx Sun, Galveston Daily News (Texas), Surrey Advertiser, Local Government Journal, Athenæum, Gossip Chronicle, Weekly Free Press and Aberdeen Herald, &c.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (25th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (26th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (28th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 P.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (23rd).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. J. W. Washbourn and Mr. Bellingham Smith: The Infectivity of Malignant Growths.

WEDNESDAY (25th).—DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.).—4.30 P.M. Informal Exhibition of Cases. 5 P.M. Ordinary Meeting.

HUNTERIAN SOCIETY.—8.30 P.M. Clinical Evening. Cases will be shown by Sir H. Beevor, Dr. F. J. Smith, Dr. Ross, Mr. Barnard, and other Fellows.

THURSDAY (26th).—BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. General Meeting. Dr. J. I. Murray (President): A Retrospect and Forecast.

NEUROLOGICAL SOCIETY OF LONDON (Medical Society's Rooms, 11, Chandos street, W.).—8.30 P.M. Clinical Meeting. The following cases will be shown:—Dr. F. E. Batten: Unusual Form of Muscular Atrophy.—Dr. T. Buzzard: Myasthenia Gravis.—Dr. J. Taylor: Myopathy of Landouzy (Déjérine Type).—Dr. W. Harris: Myopathy of Landouzy (Déjérine Type).—And other cases.

FRIDAY (27th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Clinical Evening. The following cases will be shown:—Dr. Guthrie: Cerebellar Symptoms relieved by Trephining.—Mr. G. R. Turner: (1) A Case of Actinomycosis in process of Cure; (2) A Case of Ostitis Deformans.—Mr. J. Jackson Clarke: A Patient in whom Kraske's Operation was performed (with specimen).—Mr. Watson Cheyne: Old-standing Dislocation of the Hip with Fracture of the Acetabulum reduced by Operation.—Other cases will be shown. Patients will be in attendance at 8 P.M.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION (11, Chandos-st., Cavendish-square, W.).—4 P.M. Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

TUESDAY (24th).—WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—4 P.M. Clinical Demonstration:—Dr. Harry Campbell: On the Motor Tract, with Cases of the Different Types of Paralysis.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-sq., W.C.).—3.30 P.M. Dr. Tooth: Spinal Cord Localisation (lantern demonstration).

WEDNESDAY (25th).—ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—4.30 P.M. Dr. Eddowes: Sycosis. (Post-graduate Course.)

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL (Hyde-park-corner, S.W.)—3 P.M. Annual Distribution of Prizes by His Grace the Archbishop of Canterbury.

THURSDAY (26th).—THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Penrose: Demonstration of Selected Cases.

CHARING-CROSS HOSPITAL.—4 P.M. Dr. Galloway: Dermatological Demonstration. (Post-Graduate Course.)

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Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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